THE INSTRUCTOR

SCHOOLROOM ACTIVITIES FOR ELEMENTARY TEACHERS

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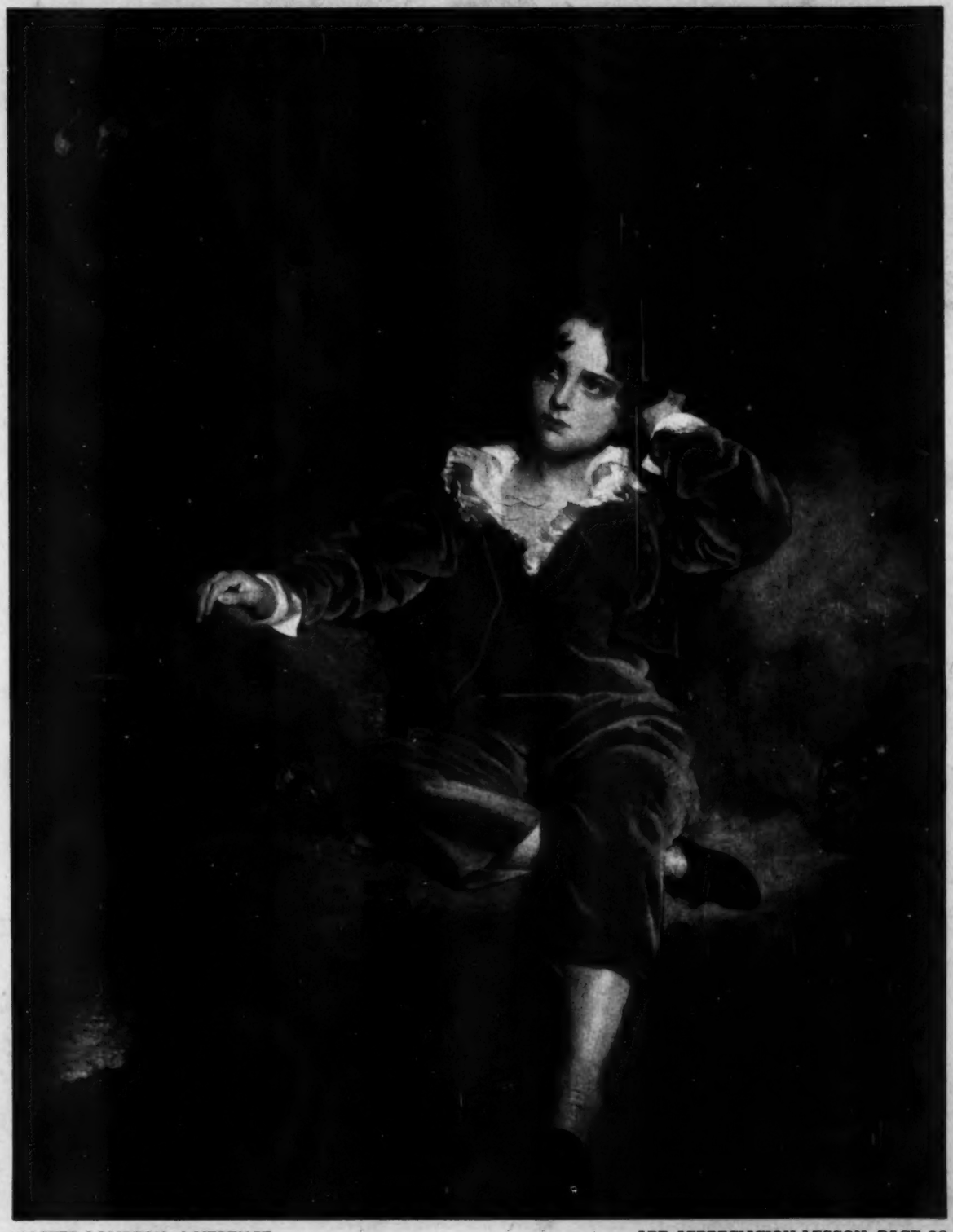

MASTER LAMBTON—LAWRENCE

ART APPRECIATION LESSON, PAGE 23

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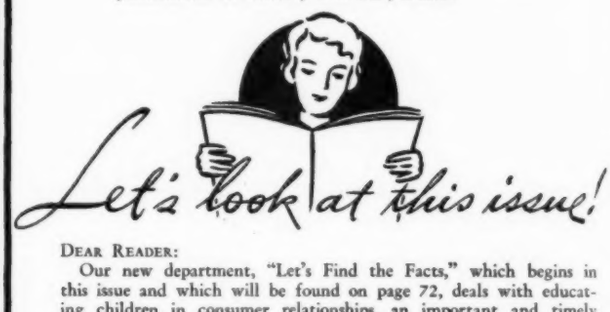

DEAR READER:

Our new department, "Let's Find the Facts," which begins in this issue and which will be found on page 72, deals with educating children in consumer relationships, an important and timely subject. "Utilizing Community Resources," by Clarence Hunnicutt and George W. Ormsby, page 10, continues our presentation of ways of using one's environment. Of interest in this connection is the final announcement of our Environment Contest which appears on the same page. An article on attractive arrangements of bulletin boards, by S. E. Evalyn Hammond, is on page 18. "Light" is the subject of the Illustrated Unit of Work this month, and you will find it on pages 45–54. Although you will travel vicariously when you read the letters on pages 58–60, you will suddenly find yourself making plans for your next vacation trip. "The Children's Corner," "How to Use the Handwork in This Issue," "The New Books," "Our Historical Calendar," "Help-One-Another Club," and "Your Counselor Service" are on pages 3, 4, 6, 7, 55, and 61 respectively.

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The Children's Corner

EACH month this department in THE INSTRUCTOR will be devoted to verse written by children. Contributions must be sent by the teacher and be accompanied by a letter from her, bearing her signature. The letter should give the name and address of the school and the name and grade of the young author. Each contribution should be on a separate sheet and should bear the child's name, his grade, the name and address of the school, and the teacher's name. Address contributions to:

The Children's Corner
THE INSTRUCTOR
Dansville, N.Y.

THE TWINKLY MOON

The little old moon
Climbs under the clouds
And rolls and rolls.
He sails over my house,
The twinkly old moon.
He shines like a bright little star
Up in the sky, My!
He looks like he has a face,
But they are mountains.
He peeks through my window every night.
The twinkly moon.

DOUGLAS MCLEAN, *2nd Grade*
Turtle Lake School, Turtle Lake, Wis.
BONNIE SANDMIRE, *Teacher*

THE ELEPHANT

I know why the elephant is so wise,
Because he can see things with his big eyes.
He has a very long gray trunk,
And when he walks, he goes "Clunk, clunk!"
The elephant has a long, funny nose,
And he can squirt water just like a hose.
He has a very little short tail,
And when he drinks, he drinks from a pail.
He is afraid of a little mouse
When it comes too close to the elephant house.
Sometimes he's sad, and sometimes he's gay,
But I hope in the Zoo or the Circus he'll stay!

FREDDIE CULVER, *2nd Grade*
Dickey Avenue School, Warren, Ohio
JESSIE L. HAINE, *Teacher*

MY KITTEN

I have a little kitten
His name is China Sea
We call him that because
He is yellow as can be.

RUTH MOULTON, *3rd Grade*
Hamlin School, Springvale, Me.
COURTNEY NEALEY, *Teacher*

MY PIG

I had a little pig
He was black and white.
I fed him every morning
And also every night.
He grew so fast
And got so big,
That I didn't know
My own little pig.

GOLDA MAY DAVIDSON, *4th Grade*
Ireland School, Edina, Mo.
FLORENCE COSTELLO, *Teacher*

SNOW

I like to see the snow fall down;
It covers fields and covers town.
It makes me happy as a bird;
I do not care to say a word.
I only want to watch it fall
And watch it make the ground grow tall.
It makes me think of Christmas night
When old Santa comes, so bright,
And brings every good child toys,
And brings with him a lot of joys.

MABLE BOULAND, *5th Grade*
Farmington School, Farmington, Ky.
MARGARET WATSON, *Teacher*

WINTER

Winter is here, winter is here.
The snowflakes fall from the sky so clear.
On sleds we're sliding.
On skates we're gliding.
Winter is here.
Yes, winter is here.

ANN ANDERSON, *5th Grade*
Hop Brook School, Naugatuck, Conn.
ESTHER DALTON, *Teacher*

LATE AUTUMN

The leaves are falling from the trees,
The wind is getting cold,
The cows and horses are in the barn,
The sheep are in the fold.

The snow is white upon the ground,
With snow men here and there,
And children merry as can be,
Are playing everywhere.

DOLORES SCHIRES, *6th Grade*
Westman School, Salol, Minn.
ELLEN M. MATTSON, *Teacher*

TO A PINE

High above the trees you rise—
A silent ghost with downcast eyes;
A vigil, lone, watching there
As if all the woods were in your care;
Haunting a place where once there stood
A tree—the finest in the wood.
Then disaster struck your lofty limbs
Tearing the bark, and bared by the winds
Broke the branches and blew away
The needles of your beautiful hair that day;
But still a silent vigil you stand
Guarding the woods throughout the land.

WILMA CRISP, *7th Grade*
Norwood School, Norwood, Colo.
MARIAN GAINES, *Teacher*

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How to Use the Handwork in This Issue

Page 28 A METHOD like that described here may be used to make simple stained-glass windows. Grade five or six may do this work when the class studies medieval history. To make the problem easy for the children, fold the black paper for the stained-glass window vertically, and cut on a fold. To simplify it still further, let the child draw his lines with white chalk on the black paper before he cuts it. In this way he needs only to think of cutting after he has the lines drawn.

To make the colors appear to be stained glass, instead of pasting colored tissue paper behind the openings, paste heavy transparent tracing paper on the back of the window, and color the paper seen through the various openings with different colors of brilliant inks. This is simple, for the child needs to paste only one piece of paper behind the window.

Pages 29, 33 37, 39 FOUR pages of posters have been included in this issue of the magazine because many teachers ask for help with posters. Many children enter poster contests. The original idea of the subject matter is important. Then comes the original spacing of the words and original shapes of letters themselves. Even though originality is demanded, there are some ironclad rules. Do not be so original that your poster is hard to read. The design of letters and picture taken together must fill the space.

In many of the subjects in the modern school we follow the likes of the children, but in poster making there is a rule that is bigger than the children's preferences. Large posters require large letters. The teacher therefore has to show the child that there are right and wrong ways to make posters. Most children when left to themselves, or adults inexperienced in poster making, turn out poor results because they insist upon drawing thin letters.

The poster has for its aim to carry a message to a person passing by quickly. It must be forceful and compel him to pay attention. It must be seen at a distance.

If the poster is placed on a bulletin board with other printed matter that is viewed close up, it need not have such large letters.

The four poster pages in this issue may help with the following points if the teacher will have one period devoted to a discussion of these pages. The poster at the right on page 29 and the one at the left on page 37 have letters which can be quickly made with a brush. The child will enjoy the way some of the letters on page 29 turn. As he makes more and more posters, he will learn to swing in the letters quickly. Waterproof ink is easier to use than paint for lettering of this type, although paint made rather thin is all right, too.

The poster on the left side of page 29 has letters which can be cut from colored paper. To cut such letters, use a strip of paper about one inch tall, cutting it into pieces of the same width, with the exception of a few wider pieces for the M and some thin ones for the I.

Many schools prefer the cut-paper medium for posters if classes are large. Paste and scissors can be put away more quickly and neatly than paint. Paint has the advantage, however, of presenting a medium which when learned is quicker than the cut-paper medium.

The large letters on page 37 and the letters on pages 33 and 39 are the kind to which we have to expose the children continuously. The person trained in poster making prefers these wide letters, but the young child does not. Sometimes I have asked small children, "Why don't you like these wide letters? Why do you like the thin ones better?" The reply is always, "The thin ones look neater." This goes to show that the young child sees things differently than do adults.

Children of fifth- and sixth-grade age, however, especially the boys, often like to make the wide letters. These letters may be cut from paper.

If the poster is to be painted, I have often used the following procedure to help to get the letters large. Urge the child to cut the letters from paper, draw around them with pencil, then paint inside of the pencil lines. He then succeeds in making the letters look wide.

So far in this discussion we have talked about making the lettering. There is also an originality in the placing of lettering on posters. Children enjoy planning the poster with lettering all at the top or all at the bottom of the page. We may call attention to the fact that when some lettering is above the picture and some below, variety may be had, especially if some lettering is larger than others.

Another point illustrated by these pages is that the designs fill the spaces. The letters reach almost to the edge of the (*Continued on page 5*)

How to Use the Handwork in This Issue

(*Continued from page 4*)

space. On page 33 two little ornaments are placed before and after the word "wisely," to fill the space.

The pictures on these posters will help girls and boys to draw faces and hands.

Page 30 CHILDREN shown how to draw a child in a simple way will be able to make many interesting winter pictures. While the children work on their pictures, the teacher may make some of the following suggestions as she examines the work of individuals.

Look at Mary's picture. It is interesting the way she has made the cap and mittens the same color. I like the red she used. Red is a warm color and looks nice in a winter picture.

Jimmy's picture is beautiful. He has colored the house red like the snow suit on the child, and has made his trees so very black that they show off well with the red in the picture.

Susie's picture looks pretty. She has made the girl's hair, mittens, and shoes yellow, and has colored the snow suit deep blue.

In everything we teach in art we must emphasize the fact that the objects must fill the space, especially in snow pictures, for there is necessarily very much white. Notice that in both pictures on this page the child's figure extends almost to the top and bottom.

Page 31 AFTER making the problem on this page, some children will want to make folders for stationery or a simpler folder to hold a birthday handkerchief. A bouquet of imaginary flower designs would be colorful and appropriate on a folder containing a handkerchief for a little girl. If the gift is for a little boy, the design on the folder might be a character from *The Wizard of Oz* or one of the Disney characters such as Mickey Mouse.

Page 32 NOTICE that all of the designs on this page are simple and therefore lend themselves to printing of this type. The flowers are made large and they do not have many petals. The leaves on a stem are few and large. We do not see a dozen little leaves on one stem. In every school there are some children who have much patience. Such children may enjoy making huge allover designs on curtains. If they spend their summer vacation in a cottage, they will have hours of leisure to use these designs. The pig, rabbit, and duck are excellent drawings to help children to learn to model well in clay.

Pages 34-35 IT IS encouraging to the art teacher to see two pages like these devoted to music. She knows all too well that if the children are to get enough experience in handwork, it will have to be done in other subjects as well as in art. The child who is taught to make musical instruments out of so many different kinds of materials will think also of other uses for the materials.

Page 36 AFTER the children have made a cut-paper picture, perhaps they will like to make a wall hanging using various small scraps of colored cloth instead of paper. Several mothers may be asked to stitch it at home. Or if the hanging is made in an upper-grade room, some of the children may like to take turns sewing on it.

Suggestions for other wall hangings on cloth are as follows:

1. Unbleached muslin. Pieces of yellow cloth for a castle. Red for roofs of the castle. Checked red for a road leading to the castle. A piece of flowered cloth for one hill. Black for a horse going up the road. Different little pieces of figured goods for the clothing of a prince or a knight riding the horse. Figured cloth for the pennant carried by the rider. Dark green for the foliage of trees.

2. Pale blue cloth for the sky. Deeper blue for the ocean. White for the waves and clouds. Different bright colors for shields on viking ships. Orange with red stripes for a sail. Dark brown for the wood of the ships.

The children as shown on this page afford good figures for paper dolls. They may be used also as models for cardboard dolls to be placed on cooky dough and outlined. Currants can be put on for eyes and frosting for hair, apron, trousers, and shoes.

Page 38 THE children in my classes are as fond of making dinosaur models as the children shown on this page. We often use nonhardening clay, for the children love to model the figures, and then change their positions by raising or lowering their heads.

The pictures on this page are stimulating in other ways. The photographs of the dinosaurs carved of wood or soap show how shapes of animals must be simplified if they are to be carved from these mediums. Most of them, you will notice, have a straight base.

In our free period children often say, "Let us model animals that we imagine might live on Mars." Those who have studied prehistoric animals often shape the Mars animals somewhat like them.

For a creative art problem children like to model a horse, swan, or duck, and paint it with many brilliant colors—some with spots, some with stripes, and some with little flowers.

They love the book *William and His Friends*, by Elizabeth Naramore (Viking Press; $.75). Every school should own this little book. Children are here introduced to creatures of the past and present, and to the work of artists.

Some creative designs made by children are masterly in color. We use for inspiration the book just named. Among the animals we have modeled are: a wooden horse from Sweden, a rooster from Sweden, a painted pig from Mexico, and a burro from Italy.

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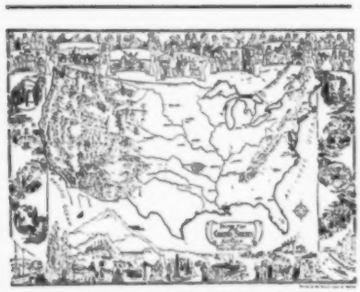

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THESE facts, which you will want to use for reference in connection with our calendar, page 9, will give you some interesting material for classroom use.

Jan. 1—New Year's Day.
President Lincoln issued the final emancipation proclamation, 1863.

Jan. 2—Georgia ratified the Constitution, 1788.

Jan. 4—Utah admitted to the Union, 1896.

Jan. 6—New Mexico admitted to the Union, 1912.

Jan. 9—Connecticut ratified the Constitution, 1788.

Jan. 10—Ethan Allen, American officer in the Revolution, born, 1737.

Jan. 11—Alexander Hamilton, first secretary of the treasury, born, 1757.

Jan. 17—Benjamin Franklin, American statesman, born, 1706.

Jan. 17–24—Thrift Week.

Jan. 18—Daniel Webster, American statesman and orator, born, 1782.

Jan. 19—Robert E. Lee, commander in chief of the Confederate army, born, 1807.
Edgar Allan Poe, American poet and short-story writer, born, 1809.

Jan. 21—The first wireless message to cross the Atlantic Ocean eastward was sent from America to England, 1903.

Jan. 23—John Hancock, first signer of the Declaration of Independence, born, 1737.

Jan. 24—Gold was discovered in California, 1848.

Jan. 25—Robert Burns, Scottish poet, born, 1759.

Jan. 26—Michigan admitted to the Union, 1837.
Mary Mapes Dodge, American author, who wrote *Hans Brinker*, born, 1831.

Jan. 27—Lewis Carroll (Charles L. Dodgson), author of *Alice in Wonderland*, born, 1832.

Jan. 29—William McKinley, the twenty-fifth president of the United States, born, 1843.
Kansas admitted to the Union, 1861.

Jan. 30—Franklin D. Roosevelt, thirty-second president of the United States, born, 1882.
Walter Damrosch, American musician, born, 1862.

Jan. 31—Robert Morris, financier, and signer of the Declaration of Independence, born, 1734.

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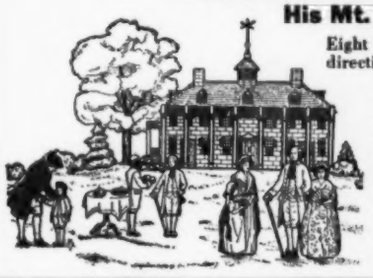

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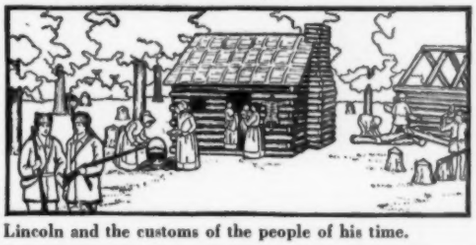
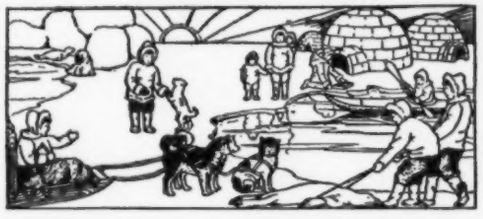


They lend themselves to use in sand-table work and other activities in relation to Lincoln and the customs of the people of his time.

ESKIMO VILLAGE CUT-OUTS



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JANUARY 1940

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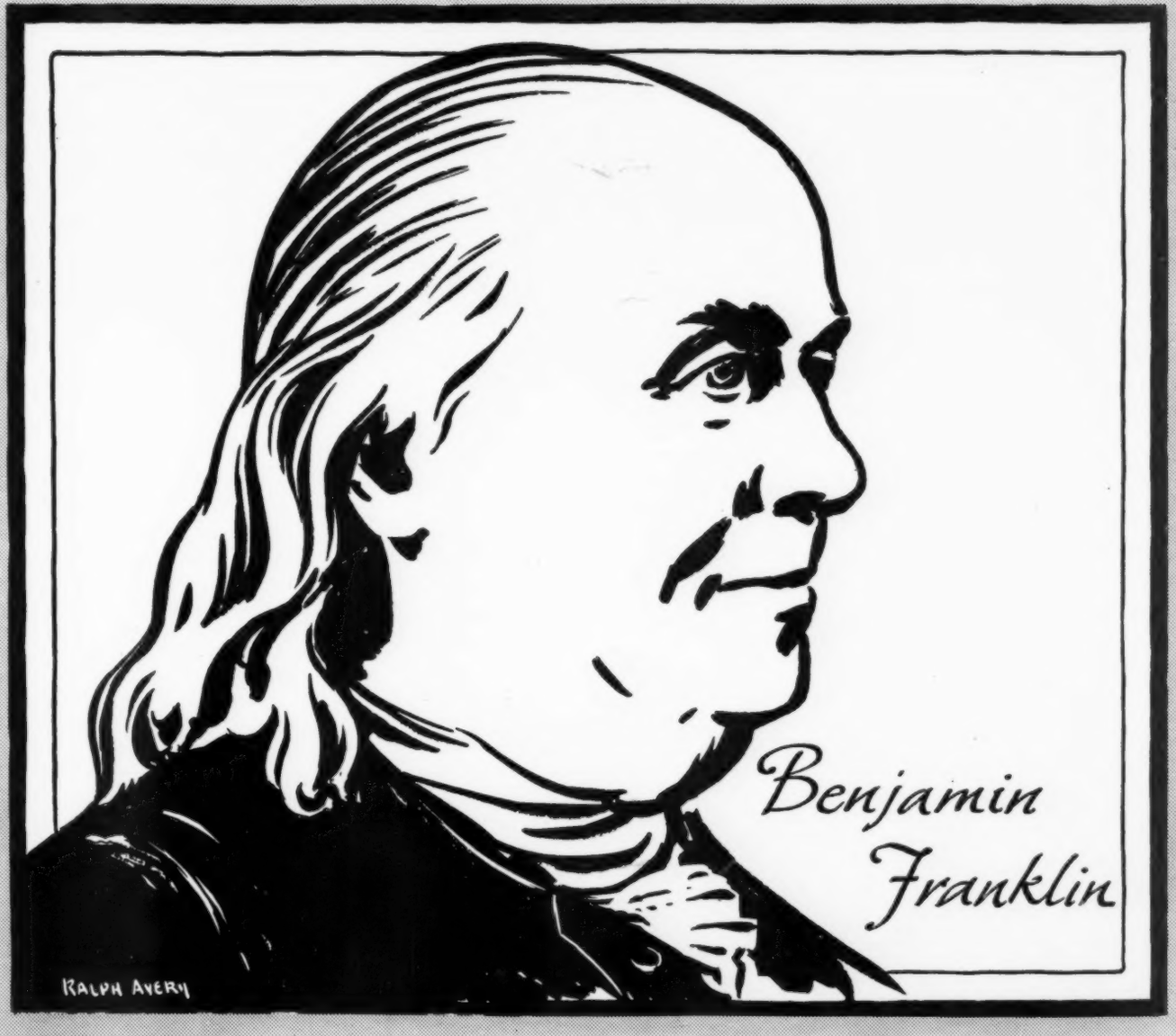
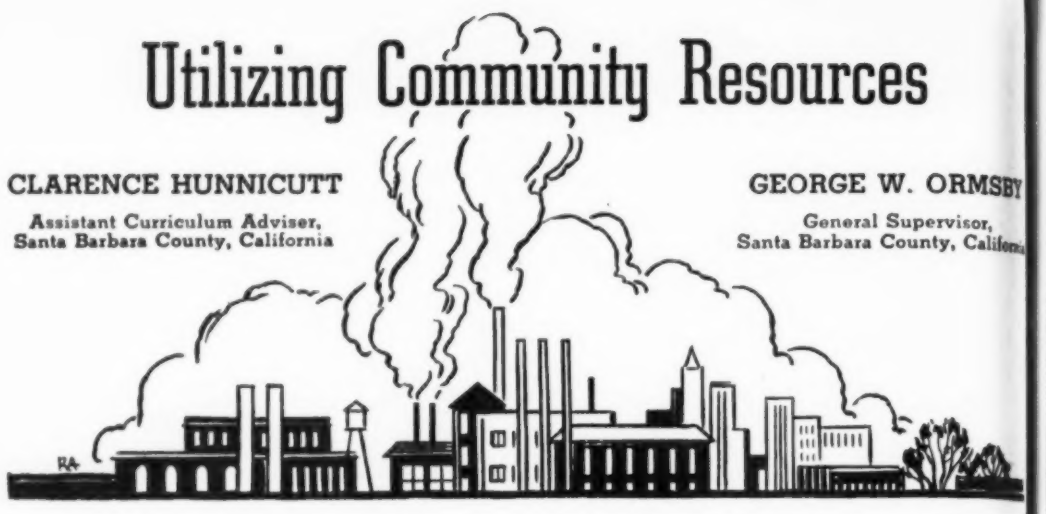


On page 7 you will find a list of historical events which occurred in January.

Utilizing Community Resources

CLARENCE HUNNICUTT
Assistant Curriculum Adviser,
Santa Barbara County, California

GEORGE W. ORMSBY
General Supervisor,
Santa Barbara County, California



■ INCREASINGLY we are recognizing that within every community lie untapped opportunities for the most valuable educational growth. Everywhere there are resources meaningful to children if we but have the vision to utilize them. How can we develop the vision to use this vast wealth more effectively? For years this problem has faced our schools and demanded our attention.

It is axiomatic that a teacher who doesn't realize the potentialities of a community cannot be successful in guiding children to take the best advantage of these resources. A chief goal of the teachers of Santa Barbara County has been to develop this vision within themselves. Many and varied lines of activity have entered into the pursuit of this goal.

One of the most valuable of these activities has been the use of excursions. During one year alone, more than fifty trips were made by various teacher groups to important points of interest. These excursions are of two general types. In the first, the purpose is to enlarge the background of information of the teacher, with no thought that any class of children will later make the trip. In this, a teacher may gain much knowledge enabling him to be more effective in his classroom situation. Groups of teachers visit spots which are too remote or too expensive to be accessible to a class of children. They have traveled to Los Angeles to visit the planetarium and a steel mill and other factories not duplicated in Santa Barbara County. A large group traveled to Boulder Dam during Thanksgiving vacation. Perhaps the most interesting experience was a day spent at the relatively uninhabited Santa Barbara Islands excavating for Indian relics.

In the second type of excursion, teachers become acquainted with places to which they may later bring a class. Museums, a glass factory, a sugar-beet refinery, a power plant, a walnut warehouse, a lemon-packing plant, dairies, vegetable-packing sheds, and flower-seed farms have all proved very enlightening.

Probably all children can get something from any excursion, but for the greatest growth to result, much careful preparation and planning are necessary. This is just as true for a group of teachers. Specific responsibilities must be assigned. One supervisor was in charge of all preparation and planning. Bulletins, announcing schedules and indicating certain items to inform oneself upon beforehand and to watch for during the visit, were mailed to the teachers. A conference at the end of the visit helped clarify obscurities and clinch learnings.

Perhaps the most important need is that all concerned with the excursion shall have a true understanding of an educational experience as contrasted with a mere show. Occasionally it was necessary for the supervisor to spend hours with the factory representative in charge of the visit in order to clarify this point. For example, it was difficult to convince a dairyman that we would refuse any free ice cream, and were not to be entertained, but were really anxious to learn the techniques and problems of his business. He eventually caught the vision of his role as an educator teaching a group of interested people.

When teachers and some of the members of the community have attained a valid vision of the educational benefits to be gained by carrying the school out into the community, opportunities begin to appear for reversing the process. In any community there are many resources which may be brought into the school with great benefit. Once again the major effort must be to establish a real learning situation as opposed to the show concept. There are always individuals with special knowledges and skills who are happy to come into the schools and teach. There is no limit to their contributions. When they understand that they are not to make a speech but are to discuss their problems, show they are helping to solve some of the problems of the community, and contribute to the thinking of the school, they usually become quite enthusiastic supporters of the program and appreciate its value. Then school and community are more nearly fused.

Perhaps the greatest contribution of the community is that it is always at hand as a source book of information. No matter what sort of problem is being studied, there are sources of information within the community bearing upon that problem. As opposed to making a deliberate study of what is in the community, it often is more valuable to call upon the resources of the community to help solve problems arising in the schoolwork. By gaining understanding of some aspect of the community, pupils derive answers to the problems that are important to them. Similarly, no matter what area of the globe may be under consideration, there usually will be individuals who can contribute information. Parents of children are a cultural resource always available to pupils. For example, in this way one class discovered more than a hundred new games from many lands. Songs, literature, folk tales, art—all are there for those who search.

Similarly, within the community are usually to be found representative examples of the entire scope of living. The federal government and other large governmental units are too vast and complex to be adequately understood, but within a community, units of government may be small enough for children to comprehend and affect. Personal contact and acquaintanceship may still count. Our large industries depend upon intricate processes and corporate structures too far-flung and complicated to be readily grasped, but within a community industries may be available in units simple enough to be understood. The corner grocer is more than just a grocer. He is an understandable focal point for a vast system of production, distribution, transportation, and consumption leading to all corners of the world. Similarly, other institutions provide understandable yet ever-expanding sources of learnings.

We in Santa Barbara County are continuing to expand our efforts to tap the resources of our communities and to utilize them in valuable educational growth.

Are You Entering Our Environment Contest?

IT IS now time to assemble your notes on the use you have made of your environment in teaching since September, 1939, for you will soon need to prepare your report to be entered in our Environment Contest. The rules may be found on page 66.

OUR JANUARY PICTURE PAGE

★ For Your Bulletin Board ★

YOU will find suggestions on page 18 for grouping these pictures in an attractive arrangement on your bulletin board. Children will like to use one of the pictures, perhaps that of Benjamin Franklin, on a January calendar or a thrift poster. They may be interested in writing a short story about some girl or boy who lives in a climate that is different from their own.

Do you like to blow soap bubbles on stormy winter days when the weather is too cold to play out of doors? *Harold M. Lambert*

Here is a picture of Benjamin Franklin as a newsboy in Boston. Why is he honored by us today?

Count the blocks that the girl has in her pile. How many more do you suppose she can add? *H. Armstrong Roberts*

How many sports other than skiing can you enjoy if you live where there is snow? *H. Armstrong Roberts*

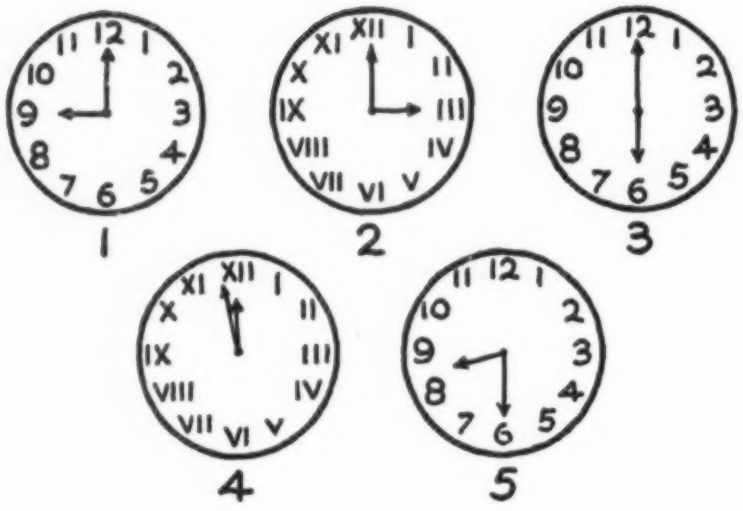
In what states do boys dressed like this play outdoors in January? *H. Armstrong Roberts*

Have you ever made a snow man like this one? What other things do you like to do with snow? *W. Henry Boller*

Seatwork for "The Clock Family"

Helen Kitchell Evans

Substitute Teacher, Public Schools, Corder, Missouri



1 2 3 4 5

Answer these questions.

Are these clockfaces all alike?

How many have Arabic numbers? Roman numbers?

Which clock tells the time school beqins in the morninq?

Which clock tells lunch time? Dinnertime?

This is a modern clock.

Can you tell what time this clock says?

Work these problems.

5 clocks — 2 clocks = ?

5 — 2 = ?

5 clocks — 4 clocks = ?

5 — 4 = ?

5 clocks — 3 clocks = ?

5 — 3 = ?

2 clocks + 2 clocks = ?

2 + 2 = ?

3 clocks + 2 clocks = ?

3 + 2 = ?

4 clocks + 1 clock = ?

4 + 1 = ?

Do these thinqs.

Draw 5 clocks and set the hands for different time.

Put Roman numerals on 3 of your clocks.

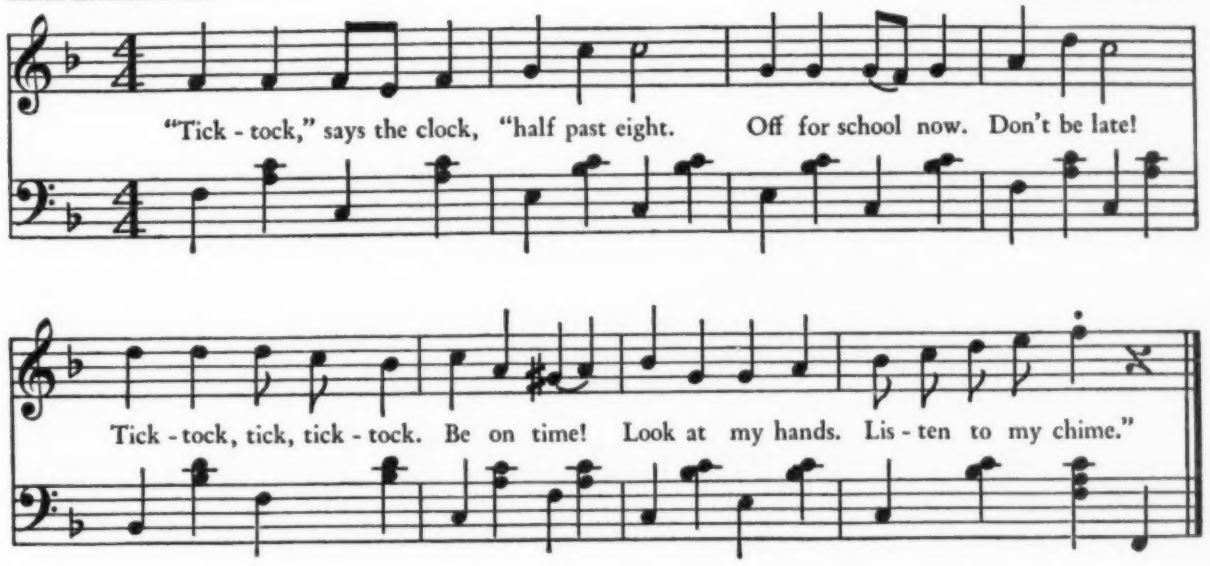
Put Arabic numerals on 2 of your clocks.

Write a poem or a story about a clock.

Ewing Galloway

Helen Kitchell Evans

Frances Mann Benson


"Tick - tock," says the clock, "half past eight. Off for school now. Don't be late!
Tick - tock, tick, tick - tock. Be on time! Look at my hands. Lis - ten to my chime."

The Clock Family

A UNIT FOR PRIMARY GRADES

HELEN KITCHELL EVANS

Substitute Teacher, Public Schools, Corder, Missouri

I. Approach.

A store in the neighborhood had placed various kinds of clocks in the window. The children passing became interested in them. One boy suggested that we have a clock store and make clocks for sale.

II. Procedure.

Each child brought to school one large and one small paper plate and boxes of all shapes and sizes. From this material and from different colors of construction paper we made our clocks.

The paper plates made excellent clockfaces. Hands were attached to these with a brass paper fastener. Each child could move the hands and set his clock at the time stated when we had clock drill. The boxes were covered with construction paper and faces were drawn and pasted on them. The grandfather clock seemed to be the most popular with the children.

The clock was made from a large matchbox as follows. Paste brown construction paper around the cover of the box, but leave the open ends uncovered. Remove the match container. Cut a large rectangular hole in the lower part of one large surface of the cover. Draw a clockface on a piece of white paper and paste it above the hole just cut out. Cut clock hands and affix them to the center of the clockface with a small brass paper fastener. Cut out a pendulum and a weight and suspend them with cord secured with a brass paper fastener from the middle of one of the small rectangular ends of the match container. Insert the container in the cover with the open side facing the hole which was cut out. Cover the small rectangular ends with brown construction paper.

One corner of the room was selected for the clock store. The children placed tables across the corner, and above them put a sign, "The Clock Store," which they made on brown paper. A storekeeper was selected each morning, and during arithmetic class we bought and sold clocks with cardboard money.

III. Correlations.

A. Reading.
1. Stories about famous clocks.
2. Poems about clocks.
3. Bulletin-board items about clocks.
4. Seatwork directions written on the blackboard.
5. Sentences about the clock store written on the blackboard—janitor for the day, storekeeper for the day, and so on.

B. Language.
1. Simple stories written by the children.
2. Simple two-line verse composed by the children.
3. Oral sentences about clocks.
4. Short talks on some interesting clock. (One child gave the history of the clock in their dining room.)
5. Riddles about clocks.
6. Simple stories and poems dramatized.

C. Health.
1. Learned correct time for eating meals and for going to bed.
2. Learned number of hours of sleep needed.
3. Talked about how long to brush teeth.

D. Writing.
1. Names of clocks.
2. Signs in store.
3. Copying items from the blackboard.

E. Arithmetic.
1. Learned to make correct change.
2. Learned the various pieces of money and their value.
3. Learned how to make the Arabic and Roman numerals.
4. Counted the number of sales made each day.
5. Counted the number of clocks in the store.
6. Made up oral and written problems about clocks.

F. Art.
1. Building the store.
2. Making the clocks.
3. Printing the sign.
4. Making booklets.
5. Drawing clocks.
6. Making play money.

G. Music.
1. Songs about clocks.
2. Marching to the clock store.
3. Action songs.

IV. Results.

A. Good sportsmanship.
B. Co-operation.
C. Unselfishness.
D. Neatness.
E. Courtesy.
F. Patience (waiting turn at store).
G. Promptness, since the children learned to tell time.

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Pennell, Mary E.; and Cusack, A. M.: *The Children's Own Readers* (Ginn).

Each month Marion Paine Stevens conducts a column in our department, "Your Counselor Service," in which she will answer your questions regarding the teaching of the social studies. In connection with the unit on the clock, you will be interested in the lesson, "What Time Is It?" found on page 20.

Toil - ing up the moun - tain,
Tip - toe, tip - toe,
Packs up - on their shoul - ders,
Come the Moun - tain Men.

Un - der - neath the moun - tain,
Deep down, deep down,
Lies the gold - en treas - ure
Of the Moun - tain Men.

Nixie, Pixie, Leprechaun

Blanche Jennings Thompson

Head, English Department,
Benjamin Franklin High School,
Rochester, New York

On a certain spring evening, while people who were listening to their radios complained mightily of static, a momentous message circled the globe, summoning fairies everywhere (who could behave themselves) to the First International Council of the Wee Folk of the World to be held in New York City on Midsummer Eve.

Puck of Pook's Hill broadcast for the Council Committee, of which Tomar, the Brownie with the Bell, was chairman. Gar, Elvar, Mansel, Srith, and Ven helped make the plans at Tomar's farm in New Jersey. At first they tried to list all the members of the Kingdom of Faerie, but found it too difficult a task, so they decided to issue a general invitation.

The purpose of the convention is to re-establish friendly relations between humans and Fairy Folk, and was prompted by the disturbing conviction that "people don't believe in fairies any more!"

WELL! Did that broadcast start things moving in Fairyland! Nothing so exciting had happened for years and years. In all parts of the world—in underground caves, in tree homes and rock caverns, in silken pavilions and tapestried halls, there was only one subject of conversation—the impending Council of the Wee Folk.

"I haven't a thing to wear!" declared every fairy lady, and "What's the matter with that last dress you bought?" retorted every fairy husband, testily.

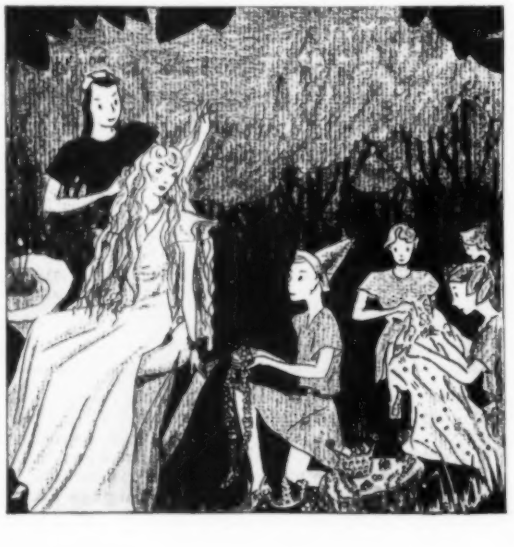
Up in the Shetland Isles, where the sea maidens disguise themselves as seals, there were many spirited discussions as to the propriety of wearing sealskin coats in New York City on Midsummer Eve. Far to the south on the sun-kissed shores of Greece, the sea nymphs polished their golden combs and the dryads shook out their wood-green fringes in preparation for the great event. In Brittany the Korrigen, who dress in pure white wool with flowers in their hair, set the most skillful spinners to work that they might not want for fresh apparel.

In Jutland there was consternation. The Nis are small contented folk who spend all their time working for the householders. They make the beds, clean the horses, keep the dairy in order, sweep, bake, and brew. It seemed that they could scarcely take time from their work for anything so frivolous as a convention. Still after many earnest discussions, they agreed that it was really their duty to go and they worked doubly hard so that they might leave everything in order. Even the Kirkegrime who take care of the churches decided that they could spare a day or two. They carefully brushed their gray clothes and little red caps in preparation.

The Huldrafolk of Norway were especially excited because they received an invitation to furnish some of the music for the dancing. Although they had quite a reputation as musicians at home they were delighted to receive such recognition from abroad, and they practiced day and night so that their performance might be perfection. There was one cross-grained old curmudgeon, named Knurremurre or "Old Rumble-Grumble," who scolded because they kept him awake with their rehearsals, but no one paid any attention to him, and the music of the Huldrafolk Elfin Orchestra improved day by day. Their specialty was "Minor Music in the Modern Way" for they intended to be up-to-date when they performed in New York City.

"We'll show some of these dance orchestras what rhythm really is!" boasted Skynd of Kirsten's Hill. Skynd knew well that any mortal who danced to elfin music must keep on dancing until someone cuts the fiddler's strings, and he hoped to have a bit of fun if fortune favored him.

In Germany the Wichtlein smoked their pipes and pondered deeply. The "Little Wights" live among the miners, of whom they are very fond. They wear white shirts and hoods and leather aprons, and they handle their picks and mallets with great skill. Down in their dark caves, by the light of their smoky lanterns, they discussed the Council approving-



ly. Two of their number were appointed delegates and instructed to co-operate with the International Council in every way.

The Heinzelmanchen, who help the bakers and the tailors in Cologne, were exceedingly pleased at the prospect of a holiday. Friendly as they were, they did get a little tired of sweeping and stirring and stitching, and scouring the copper and tin. Many of them had little red suits once made for them by the grateful wives of the tailors and bakers. Now the clothes were worn and shabby, for it had been many years since anyone had thought of so rewarding the mannikins, but they brushed and mended the well-worn garments, hoping that more prosperous times might indeed return again.

In Switzerland the Kobolds work very hard. They drive home stray lambs, work in the fields, and make excellent cheese from the milk of the chamois. This cheese is of a remarkable nature, for it will grow again after it has been cut or bitten. If, however, any hungry person is foolish enough to eat the whole piece, leaving nothing to grow again, why, he's seen the end of his cheese, that's all!

"There are not very many who can do a trick like that," boasted Jack-of-the-Bowl to his companions. "I shall make myself exceedingly popular, I imagine. Possibly I shall even patent the idea while I am away and make my fortune."

In Somerset and Devon the Pixies gathered from all sides. A very large delegation planned to attend the Council and a number of Vairies asked to join them. The Vairies are very tiny (it is the marks of their high-heeled shoes that you often see on frosted cakes) and preferred to travel in company for safety's sake.

Tomar and his friends were saved many nights of worry because they did not know that the Dartmoor Pixies meant to come. The mischievous little green fellows, who love to dance under the mushrooms on a fine moonshiny night, can think up more kinds of trouble in a minute than most of the Wee Folk in a fortnight, and their plans for the Council were no exception. Many a traveler on the lonely moors could testify to the dangers of being "pixy-led." In the dark of the moon no man traveled safely. If once the pixies led him astray, he might wander all night long, unable to find his way even on a familiar path, unless he remembered to turn his coat inside out. Oh, the Pixies were certainly trouble-makers!

But the greatest preparations might have been seen deep in the fair green forest where Oberon and Titania held court. Bored as they were by the monotony of court life, especially the court of a pretender with no real authority, the news of the Great Council gave them the utmost joy. They planned to travel with a vast retinue and to make as great an impression as possible upon the other (*Continued on page*

Read or Tell

Thrifty Comes to Stay

Mabel S. Harmer

ROBIN was the very first one to catch sight of Uncle Elbert as he came whistling up the walk, and the little boy called the good news to Josie and Peter. In less than a minute all three children were standing eager-eyed at the window.

"What do you suppose he's brought?" asked Peter.

"Hush!" commanded Josie. "You shouldn't be thinking about whether or not he's brought anything. It isn't nice."

"But he always does," returned Peter, "so I can't help wondering about it. I dare say that you are wondering, too."

As a matter of fact, the idea had been in Josie's mind, but, since she was nine years old, she was much too grown-up to say anything.

"Oh!" cried Robin with delight. "It's a dog! A Scottie dog!" He ran from the window to the front door followed by the older children.

"Hello there, lads and lassie," called Uncle Elbert, as he came in. "Here's a pair of Scots come to pay you a visit." He set the dog down on the floor while he took off his hat and coat and then settled himself in an easy chair.

Robin immediately sat down on the floor to become acquainted with the Scottie. Peter stood looking at him for a minute, and then he said, "Did you both come for just a *visit?*"

"Well, that all depends," Uncle Elbert answered with a chuckle. "Of course I'm only here for a visit, but as for Thrifty, perhaps he has come to stay—it all depends."

"Oh, Uncle, what does it depend on?" Josie cried breathlessly. "We've just got to have him. What do we have to do to keep him?"

Uncle Elbert seemed suddenly to grow very serious. "Well," he said, "Thrifty wants to live in a family that can live up to his name."

"And his name is Thrifty," Josie said, thinking hard as she spoke. "That must mean that he wants to live in a thrifty family. Is that it, Uncle?"

"That's it," he answered with a nod. "Do you think that you can live up to Thrifty?"

"We'll try very hard," Peter said earnestly, while Robin and Josie repeated, "Very hard."

That evening the family held a council to decide the best means of living up to Thrifty.

"I can save only a dime out of my allowance this week," Peter said seriously, "because I want to see that basketball game, and next week the Cubs are having a party and we are to help buy the refreshments. At this rate, I'm going to be ever so long saving much money."

"I was going to buy a new ribbon this week, but I suppose I could get along without it," said Josie. "That would help a little."

"That gives me an idea," said Mother.

"Oh, what?" cried all three children. Mother always had the most wonderful ideas.

"Did Uncle mention saving money especially?"

"Well, no," Peter answered, "but everybody knows that being thrifty means saving money."

"It means saving money, all right," said Mother, "but people can be thrifty with other things besides money. Now, take clothes, for instance. If they are always hung up when not being worn, they will wear much longer than if they are left around on chairs. Changing to play clothes after school will help, too."

"I know something to help," said Robin. "It's being careful of nails or anything else that might tear clothes."

"That's a fine idea," said Mother, nodding.

"Do you think that we'll be able to keep Thrifty if we are careful with our clothes and money?" asked Josie anxiously. "Isn't there something else we could do, too?"

"There's such a thing as being careful about the way one spends his time," said Daddy, after a moment's thought.

"Of course there is," Peter agreed heartily. "I know of many ways that I've wasted time. It seems to me, Daddy, that I've heard you say something about time being money."

"I believe you have. Time is very valuable and never should be wasted."

"Money, clothes, and time," said Robin, counting them off on his fingers. "Now can't we think of just one more thing to save so that we'll be sure of Thrifty?"

"I know," cried Josie. "Playthings! I've lost about half of the checkers that came in my Christmas game. I was going to ask Daddy to buy some new ones, but I'll find those lost checkers, and that will be something saved."

"Exactly," said Mother smiling. "I'm sure that if all these plans are carried out, Thrifty will have a new home right here."

It was almost two weeks later when Uncle Elbert came whistling up the walk again to visit the three young Masons. Robin was first at the door and as soon as he had welcomed his uncle into the house, he asked with a wide smile, "Would you like to see our dog?"

"Did you say *our* dog?" asked Uncle Elbert with a twinkle in his eye. "It seems to me that there were certain conditions to be fulfilled before he became your dog. Are you sure that the conditions have all been taken care of?"

"Oh, yes, indeed," Robin answered with assurance. "We're learning to be the thriftiest family you ever heard of. We're being careful with our clothes and our playthings, and we're saving our time and some of our money. We think it's a great game."

"You're right, young fellow," Uncle Elbert answered heartily. "I'm glad that Thrifty has come to stay in such a fine family."

He Stood before Kings

Inez N. McFee

WHEN Benjamin Franklin was ten years old, his father set him to ladling grease at his soap and candle factory. Oh, how the boy hated it! Nor did it help much when his uncle said to him, "It is not so much what you do, as how you do it!"

Benjamin knew that he never should like the job, no matter how hard he tried, but when his uncle, still hoping to be helpful, quoted his favorite Bible text, "Seest thou a man diligent in his business? He shall stand before kings," and explained it fully, the thought stuck.

"Hm-m!" mused Benjamin. "Stand before kings, shall I, simply by being faithful? Well!" And, henceforth, whatever he did was done with all his might.

Many years later when Benjamin, now known as Dr. Franklin, came home from a council with the rulers of the great nations of Europe, bearing with him the treaty of peace following the American Revolution, the old Liberty Bell in Independence Hall clanged the nation's welcome. He stood up before the multitude and told the story of discontented little Benjamin Franklin, quoting solemnly, "Seest thou a man diligent in his business? He shall stand before kings."

"Certainly," he concluded, in his easy confidential way, "the wise old text proved a true guide for me. And the words of my uncle, too, 'Not what, but how,' were valuable. Having a purpose and the will to follow a set course leads to a triumphant goal. One may not only stand before kings, but in any spot in the whole wide world whither he bends his steps!"

Seatwork for "A Unit on Eskimo Life"

Grace Dickson
Teacher, Third Grade, McKinley School, Westfield, New Jersey

Fill in the blanks with the correct word or words.

In winter Eskimos travel on land by _____.
Eskimos make skin canoes called _____.
The clothes of an Eskimo child are made of _____.
Men wear ____ to help them walk over the snow.

If the statement is true, write T after it; if not true, write F after it.

Kayaks are boats.
Eskimos live in a cold climate.
Horses are the Eskimos' most useful animal.
An Eskimo boy eats many veqetables.
The men in cold reqions are qood hunters.

Make a picture for each qroup of words. Write the words under the picture.

1. snowshoes
2. a doq team
3. a kayak
4. a polar bear
5. two seals
6. some iceberqs
7. an Eskimo
8. a reindeer

Work these problems.

An Eskimo cauqht seven fish each day for three days. How many fish did he catch?

An Eskimo cauqht six seals and divided them amonq the people in the villaqe. There were three families. How many seals did each family receive?

A Unit on Eskimo Life

FOR PRIMARY GRADES

GRACE DICKSON

Teacher, Third Grade, McKinley School, Westfield, New Jersey

I. How the unit originated.

One day a discussion started concerning games and sports which various children particularly liked. In the course of the conversation, snowshoes were mentioned. The next day Roger brought a pair of snowshoes to school and showed how they were used. We learned that they were worn to a great extent in many countries where there was much snow. This led to a talk about these cold countries and where they were. We located them on the map. We tried to find out why these countries were so cold. Some of the class knew that people lived in these countries and told something about them. Other children asked to find out more. Clifford volunteered to bring some books about Eskimos, and thus the unit started.

II. Objectives.

A. To bring about a better understanding and thus a feeling of friendship for our neighbors.

B. To appreciate more strongly the fact that climate affects ways of living.

C. To show how these people have made use of the materials in their own environment.

D. To understand the difficult and dangerous work of getting furs for our clothing.

E. To have a better understanding of the great part the sun plays in determining the climate, and the manner in which people live.

F. To find out the cause of night and day and the cause of the seasons.

G. To find out the kinds of animals living in the arctic region and their characteristics.

H. To appreciate the many privileges which we are given, due to our environment.

III. Development of the unit.

Books and pictures were placed in convenient places in the room. After looking at these, the children had many questions which were listed on a large sheet of oak tag. Each question was copied on a small piece of paper and placed in a grab bag. Each child had at least one chance to choose a question. He was responsible for the answer to his own question. He gave it in the form of a report. The questions covered points on clothing, appearance, homes, weather, ways of travel, animals, weapons, and tools.

As each question on our list was answered, a star was placed beside it.

After a report was given, the rest of the children were given a chance to question the one who gave the report. A discussion followed. For the purpose of adding enjoyment as well as bits of information to our work, I read *The Eskimo Twins*, by Lucy Fitch Perkins (Houghton Mifflin) to the pupils.

IV. Correlations.

A. Arithmetic.

Problems about Eskimo life were made up and solved by the children.

B. Reading.

Many Eskimo books were read for pleasure in leisure time. Also, each child needed to read in order to find material to give in answer to his question.

C. Spelling.

Most of our spelling words were chosen with our unit of work in view.

D. English and writing.

We wrote many original stories concerning things we found out about the Eskimos. These stories brought out rules about paragraphing.

Various kinds of handwork were displayed around the room. Children wrote brief descriptions of, and labeled, each article.

Oral reports were given by each child in answering the question he pulled from the grab bag. We used sentences that were short and to the point. We also tried to choose facts that were important.

Reports on animals were discussed. Each child wrote the facts that he remembered. These stories were kept as science material.

E. Science.

We talked of the appearance, home, and habits of the seal, whale, polar bear, and Eskimo dog. We started an animal book and added other animals to it during the year.

We talked of shadows and what caused them. We observed our shadows at different times of the day. By using balls and globes, we illustrated day and night and the seasons. We talked of the four points of direction and located them in relation to the school.

In discussing day and night, the discovery was made that they were not the same all the time. We made a table which gave the time the sun rose and set each day for a month. This showed us how much each day changed.

As we discussed weather and temperature, we added these two items to our table and recorded them daily. We collected newspaper weather reports and kept them in our science notebook. By comparing the reports with the actual weather, we learned that we cannot accept as truth everything we read.

In our discussion of temperatures, we talked of thermometers. We found how they were made and talked of their various uses.

F. Art and handwork.

We made many pictures of Eskimo life. We made large drawings of Eskimos and trimmed their clothing with cotton. We painted pictures of animals found in the north. We drew many pictures of Eskimos traveling in various ways. Clay was used in making animals. From cardboard we cut Eskimo figures and dressed them. We made an Eskimo village in the sandbox. Using small drawings as suggestions, we painted a large mural which brought out ways of traveling in the north.

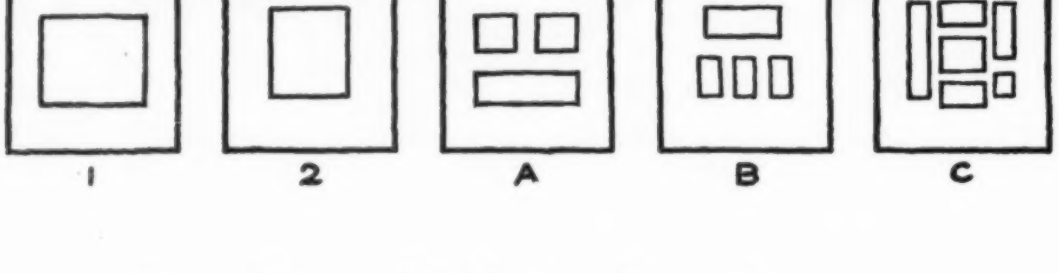
V. Outcomes.

Each child appreciates more fully the conveniences we enjoy in our life. There is a deeper comprehension of the fact that climate, natural resources, and the kind of land influence people's manner of living; and that people use the materials from their environment to provide the necessities of life. The children are learning that people of different countries are real; that they play, sing, and act much as American children do. As a result, the pupils feel more friendly toward foreign children.

In the group, an understanding of the need of co-operation and helpfulness is growing. Each child is beginning to realize that a task, once accepted as a responsibility and actually started, should be finished to the best of his ability. They are learning to work together to produce a finished piece of work that everyone in the class is proud to display.

This interesting museum exhibit shows some Eskimos at work, in native dress.

Smithsonian Institution



Are Your Bulletin Boards Attractively Arranged?

S. E. EVALYN HAMMOND

Formerly, Assistant Supervisor of Art, Public Schools, Springfield, Massachusetts

■ THE appearance of the bulletin boards of any school building speak loudly of the order and the quality of the work that is done in that building. Bulletin boards may be classified as belonging to the principal, the building, or the classroom.

The principal's bulletin board may be hung in the office or in the adjacent hall. On it may be placed messages of interest to the teachers; that is, notices of meetings, general building instructions, and dates and programs of supervisors. The board may be made more attractive by the use of a beautiful picture.

The building bulletin board should be hung low in the hall where the greatest number of children can see it. It should contain work done in the individual rooms. The work should be arranged by a teacher or by a teacher and pupils.

The classroom bulletin board comes in closest contact with the children and therefore has the greatest influence on their lives. It should be made attractive. The arrangement of the material is of utmost importance in helping children to appreciate good composition.

In decorating any bulletin board there should be a margin between the frame of the board and the material used. No picture or paper should touch the frame. The material should be arranged as one unit.

These principles of margins apply to the square.

1. The top margin and side margins may be the same and the lower margin wider.

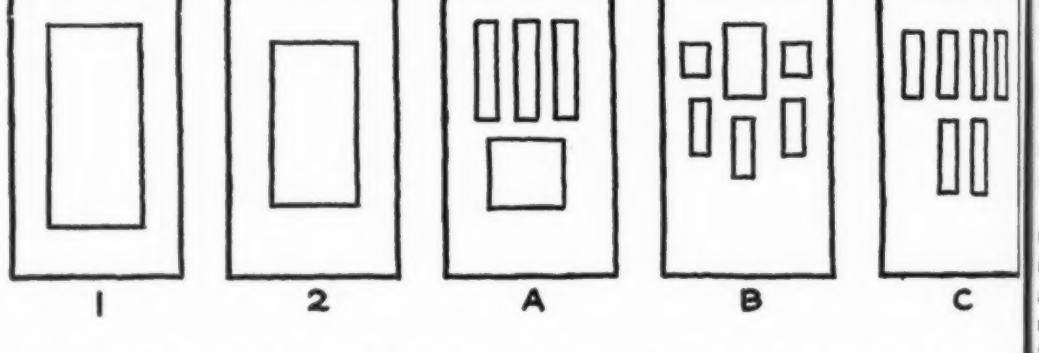
2. The side margins may be the same, the top margin a little narrower, and the lower margin the widest.

Referring to the illustration, you will see in the first row that 1 shows the first principle of margins of a square and that 2 illustrates the second principle. A, B, and C illustrate the use of different sizes and shapes of materials arranged in units and applying the principles 1 and 2.

These principles govern the margins of vertical oblongs.

1. The top and side margins may be the same and the lower margin the widest.

2. The top margin may be wider than the sides, and the lower margin the widest.



Referring to the second row of illustrations, 1 illustrates the first principle and 2 the second principle of vertical oblongs. A, B, and C use these principles in the arrangement of material of different sizes and shapes. Observe that in the arrangement of the units the top edge is a straight line, or broken by the center piece being placed higher, never lower.

These principles govern the margins of horizontal oblongs.

1. The top and side margins may be the same and the lower margin the widest.

2. The top margin may be narrower than the side margins, and the lower margin the widest.

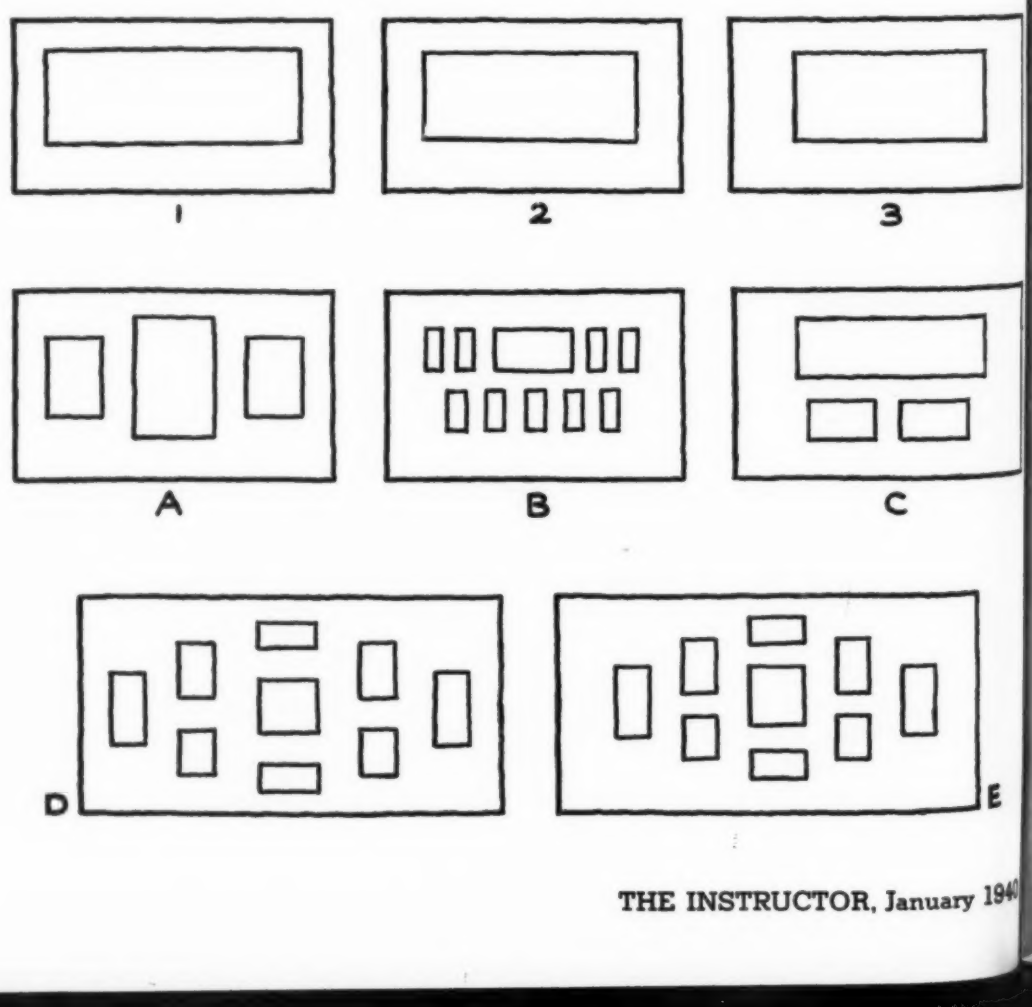
3. The top margin may be the narrowest, the lower the next in width, and the sides the widest.

The first row in the last group shows these three principles. A, B, and C illustrate the use of these margin principles of the horizontal rectangle by arranging units using various sizes and shapes of material.

D illustrates a unit that is poorly arranged. E shows the same material arranged in a more pleasing fashion.

The pictures and papers used should be on the same subject if possible. If they are mounted on the same color it unifies the material used. The grayed tones of mounting paper are preferable to brighter colors. Orange and red should not be used in large areas.

The foregoing principles should be applied in decorating any rectangles such as notebook covers, reading charts, and picture mounts. In short, it applies to all phases of schoolwork.



With Byrd on His Polar Expedition

FOR MIDDLE AND UPPER GRADES

STELLA E. WIDER

Associate Supervisor of Art, Public Schools, Lynchburg, Virginia

Clippings, pictures, and maps of Admiral Byrd's expedition will be of lasting interest if kept in an attractive notebook.

ADMIRAL BYRD and his third expedition to the south polar region is headline news. This expedition offers a rare opportunity to a classroom teacher for a most interesting and profitable integrated unit of work. It may combine current events, geography, history, natural science, literature, and art.

The approach can be made in a variety of ways. It may be made through current events and pictures on the bulletin board, or it may be made through the art classes. The subject will, no doubt, come up in some class discussion.

The average pupil carries a rather hazy idea that the arctic and antarctic regions are similar in all respects. This is far from the truth, and, for the benefit of the teacher who may not have access to the necessary data for clarifying this subject, a brief comparison of the two regions is given.

1. The site of the North Pole is the Arctic Ocean, while the site of the South Pole is a plateau of land, about ten thousand feet high.

2. It is much easier to reach the North Pole than the South Pole, because the north polar region is near the mainland of the northern continents, whereas the south polar region is isolated from the mainland by many miles of water. As a result of this, there are Eskimos living within the northern region, but there are no people at all living in the south polar region.

3. Crevasses in frigid regions made traveling difficult. The crevasses in the south polar region make traveling much more difficult because of the high land.

4. Aviators can fly low in the flat northern lands, but the snow-covered peaks of the South make such explorations very hazardous.

5. There are Eskimos living in the north polar region but the only habitation of any kind on the ice-locked southern continent is the so-called Little America. Little America is an establishment of quarters founded by Byrd on his first expedition to this land of eternal snow.

6. At the South Pole there are none of the reindeer of the northern area, and no dogs except those taken there with the expedition. Along the coast, during the summer season (which is during our winter season) seal, walrus, and whale are seen.

7. Fish are found in abundance in the extreme northern areas, but in the southern regions there are no fish except along the shores, and in the bays.

8. The North has several species of birds, living almost, if not quite, as far north as the Pole. In the south polar area few birds are found except the penguin. A number of species of penguin gather along the coast and in the deep bays.

One of my valuable possessions is a scrapbook compiled by a seventh-year class during the second expedition of Byrd to the south polar region. It is filled with clippings, maps, and pictures. The pages are arranged in chronological order, with a one-inch margin for uniformity. Underneath each clipping, picture, or map, is penciled the name of the pupil who contributed the selection. The cover is of blue cotton cloth, loose-leaf style. For decoration, it has the head of the Admiral, mounted with an interesting halo of newspaper. This halo was cut zigzag fashion from newspaper, to give the idea of the aurora australis, which is similar to the aurora borealis of the north country. The picture of Byrd was in sepia in the Sunday newspaper supplement, so the newspaper from which the letters were cut was tinted with water color to match. The title, "Byrd," was cut from the same dyed newspaper, in tall block letters, and pasted into place.

Pictorial maps of the south polar region can be made most exciting. The land area surrounded by blue water makes an attractive motif. Show the tips of New Zealand and South America, from which routes can be traced. The routes help to locate important points which are of interest to the pupils of social-science classes. Dot the map with pictures of whales, walruses, seals, and penguins, and you have a most attractive piece of art work, which may serve as a map, or merely be used for decorative purposes.

Penguins are always interesting, to old and young alike, because they are so unusual. This topic too needs clarifying by the teacher. There are many varieties of penguins living on the islands of the far South, and along the coasts of the south polar region or the South Cap, as some historians call it. All of them have the same shiny black bodies, with white fronts. Some have orange-yellow bands around the eyes. Others have similar colorings around the neck and breast. Some species have orange topknots.

These birds vary in weight from a few pounds to nearly one hundred pounds. Their wings are unlike those of any other bird. They are really flippers. Their shoulder joints closely resemble those of a human being. They cannot fly, but walk in an awkward, upright fashion. It is said that, from a distance, they have every appearance of a crowd of people. The feathers of these birds are unlike those of other birds, and cover the entire body to the very tips of the semiwebbed feet. All species swim very rapidly under water, as well as on the surface.

Penguins subsist on fish. They like to play and many of their habits are most curious. It is surprising how very rapidly penguins can travel on land, as well as in the water. The nests of the penguins vary. Some of them are made of dried grasses. Others are made of sand and pebbles.

These birds are very fond of conversation. The notes which they produce are most unpleasant, resembling the braying of donkeys more than anything else. Imagine the uproar when thousands congregate during the breeding season. They are a constant source of amusement, perhaps of annoyance at times, to the expeditionists. These birds are totally unafraid of man. They "talk" to the men, to the dogs, to one another, and scold vociferously when displeased, following the offender about at their awkward gait.

A series of illustrative posters can be of much value and interest. The following topics would be easy to work out: the shore line, penguins, seals, walruses, whales, men in the clothing worn on an expedition, the flagship, a dog train, radio towers, Little America, a crevasse, equipment, and food stores. Blue and white color combinations are effective.

If a picture machine is a part of the school equipment, slides may be made of transparent cellulose tissue which will give the class, and the makers, a real thrill.

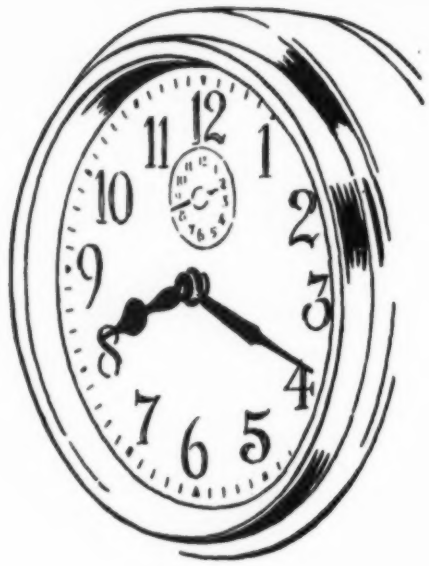
Enjoy a visit to the South Pole area with your pupils. Follow Byrd and his men as the penguins do. You will have sustained interest for some time to come.

Have you questions about the teaching of the social studies? Marion Paine Stevens will answer them in her department in "Your Counselor Service." You will find it by turning to page 64. See also Grace Dickson's unit dealing with Eskimos, page 17.

What Time Is It?

FOR PRIMARY GRADES

MARY GARDNER



■ PREVIOUS to this lesson on time telling, it will be necessary to teach and drill on the Roman numerals through XII. Use cards and have many exercises in setting up the numerals in order and matching them to Arabic numerals.

The materials needed are a small clock, one large clockface for the teacher's use, and one small clockface for each member of the class. These clockfaces, with movable hands, can be bought at any school-supply house.

The class and teacher are seated informally with the materials on a near-by table.

TEACHER—Who can tell time? (*Almost no one in the first grade.*)

TEACHER—Why do we need to know how to tell time?

CHILDREN—

(*Many answers such as the following are given.*)

It would help Mother if she is upstairs and wants to know the time.

We need to know when it is time to go to Sunday school.

We want to go to school on time; to a moving-picture show; to a party.

We must know when to come home from play.

TEACHER—Suppose one of you boys grew to be twelve years old without learning to tell time. What would happen?

BOYS—

I would not know when to get up in the morning.

I would not know when to go to church, to Scout meetings, or to keep appointments.

TEACHER—Suppose one of you girls grew to be twelve years old without learning to tell time. What would happen?

GIRLS—

I would not know when to go to rehearsals.

I would not know how long to bake a cake.

TEACHER (*holding up a large clockface after small clockfaces have been distributed to class*)—What has the clock that you have? (*She calls on different children to answer.*)

CHILD—The clock has a face.

TEACHER—What else?

CHILD—The clock has two hands.

TEACHER—Are your two hands the same size and length?

CHILD—Yes, they are.

TEACHER—Are the clock's hands the same size and length?

CHILD—One hand is long and one is short.

TEACHER—What does the short hand tell?

(*It may be that someone will know, but not likely, so the teacher will need to answer her question.*)

TEACHER—The short hand tells the hours. (*She has several children repeat the fact.*) Then what shall we call the short hand?

CHILD—The short hand is called the hour hand.

(*Never, after this, allow the children to refer to the hour hand as the "short hand."*)

TEACHER—

How long is an hour?

(*The children are rather at a loss to express themselves, so the teacher explains.*)

TEACHER—

How long is it from the time school begins until we have physical education?

Show me on your clockfaces when we come to school.

(*The children point to numerals only, for as yet they do not know where to place the minute hand.*)

Show me when we go home at noon.

Show me when we have assembly.

Show me when we go to bed. (*There will be some disagreement at this point.*)

How long does it take the hour hand to go over one of these spaces—to go from 12 to 1? From 5 to 6? (and so on).

What does the long hand tell?

(*Possibly someone will know; if not, the teacher must tell, having the fact repeated.*)

Then what shall we call the long hand?

(*After this, do not allow the children to refer to the minute hand as the "long hand."*)

How long does it take the minute hand to go from one of these numbers to the next one—from 1 to 2? (*If the children do not know, the teacher will tell.*)

Let's count by fives all round the clock.

(*The class has had previous practice in counting by fives.*)

While the minute hand is going all around the clock, show me how far the hour hand is going.

How long is a minute?

(*The class cannot answer this, so in order to have them experience a minute, the teacher says: When I say "Ready," close your eyes and keep them so until I say "Open." It will be the longest time that the first-grade children have ever experienced.*)

TEACHER—But still we don't know how to tell time. Place your hour hand as I do mine (*placing it on 9*). Where did you place your hour hand?

CHILD—I placed my hour hand on 9.

TEACHER—Place your minute hand as I do (*placing her minute hand on 12*). Where did you place your minute hand?

CHILD—I placed my minute hand on 12.

TEACHER—What time is it?

CHILD—It is nine o'clock.

TEACHER—Where is the hour hand when it is nine o'clock?

CHILD—The hour hand is on nine when it is nine o'clock.

TEACHER—Where is the minute hand when it is nine o'clock?

CHILD—The minute hand is on 12 when it is nine o'clock.

TEACHER—Show me 6 o'clock; 5 o'clock; 12 o'clock; (and so on).

In every case the teacher asks, "Where is the hour hand? Where is the minute hand?" Be careful to require complete statements in order to fix the facts firmly in mind.

All the other time positions are taught in the same way, and in the following order: half an hour; quarter after, quarter before; 10 minutes after, 10 minutes before; 20 minutes after, 20 minutes before; 5 minutes after, 5 minutes before; 25 minutes after, 25 minutes before. Teach both forms of the half hour; as, half past two and two thirty, since these forms are commonly used.

It is never advisable to teach more than one new time-telling fact a day, reviewing facts learned by giving many "showing" exercises.

As a form of summary, after each new time-telling fact has been taught, let the children demonstrate on a real clock and also on a clockface drawn on the blackboard, placing the hands to indicate the time you wish to see.

The teacher will necessarily progress at the rate she finds the children are able to go, remembering that since time telling is difficult for small children, it is wise to go slowly.

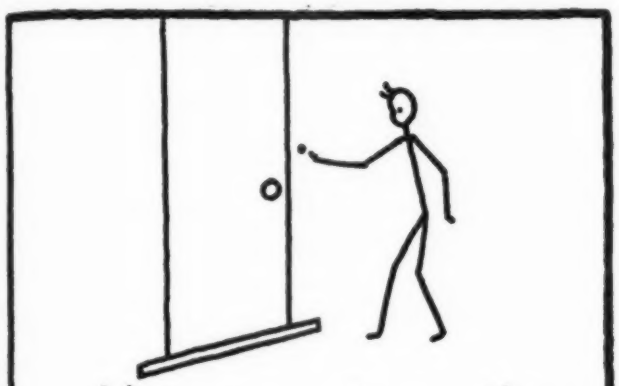
For additional material on teaching the telling of time, refer to the primary unit, "The Clock Family," on page 13 of this issue of THE INSTRUCTOR.

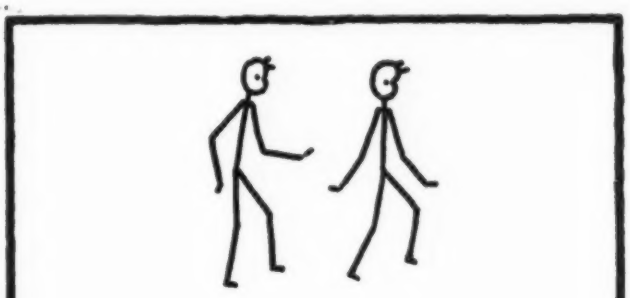
I II III IV V VI VII VIII IX X XI XII

Do It This Way!

Easy Lessons in Good Manners When Visiting Your Friends

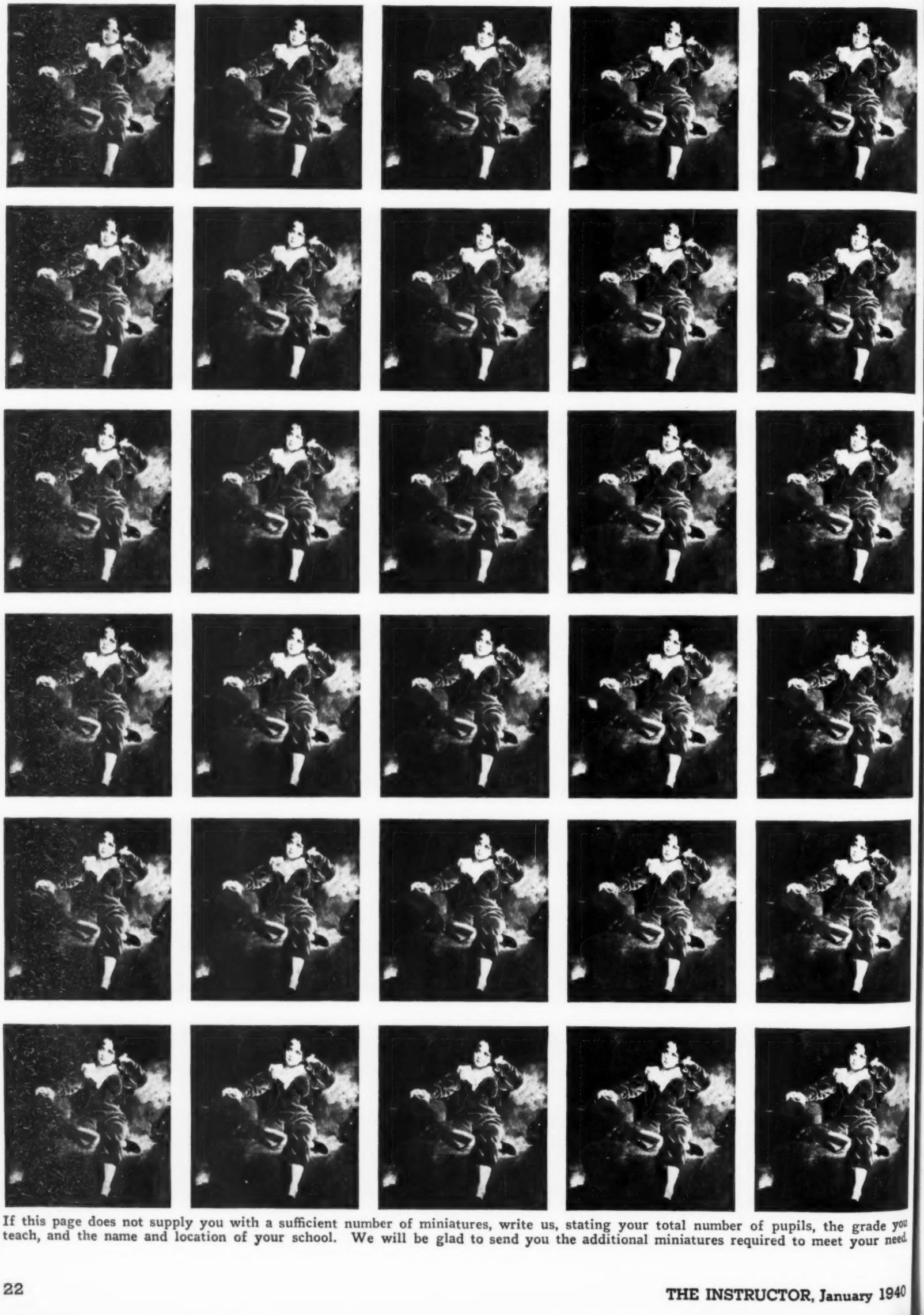
SELMA E. HERR
Assistant Professor of Education,
Ball State Teachers College,
Muncie, Indiana





Can You Pass This Good-Manners Test?

1. Be as careful of your friend's toys .....
2. If you are invited to stay for a meal, ...
3. Play quietly in your friend's home. Then you will _____.
4. It is very ..... to look into things belonging to other people.
5. Always ring the doorbell. Never go in .....
6. ..... in the family enjoy having you visit with them.



If this page does not supply you with a sufficient number of miniatures, write us, stating your total number of pupils, the grade you teach, and the name and location of your school. We will be glad to send you the additional miniatures required to meet your need.

"Master Lambton" . . Sir Thomas Lawrence

EUGENIA ECKFORD

Formerly, Instructor of Art, Tower Hill School, Wilmington, Delaware

THE fame of Sir Thomas Lawrence as a painter of pretty faces and beautiful clothes is easily understood when one looks at this picture. It may seem artificial to the modern boy and girl, unless they can see that this young boy lived long ago, belonging to the age and society of "The Blue Boy." Gainsborough and Reynolds, followed by Raeburn and Lawrence, founded the school of English portrait painting which records for us, for the most part, the life, character, and dress of the aristocracy of England in the eighteenth century. The beauty of painting, the fine drawing and modeling of figures, and the sensitiveness to color harmony overshadow the superficialities of the times, and make these pictures of great interest and pleasure to us now.

■ IN A comfortable nook in a huge overhanging rock Master Lambton has seated himself, that he might be close to an evening storm. There are suggestions that leaves are blowing, that rain will soon fall, and that waves are breaking on the shore. The boy is unafraid, lost in his enjoyment of watching the clouds, listening for thunder, and looking for lightning.

Perhaps young Master Lambton never really had this adventure, but Sir Thomas Lawrence knew that he was the sort of boy who would wish to have it. When he painted this picture, therefore, he made a background of rocks and sea. It is a very perfect setting for the handsome velvet suit of red orange. It is a friendly background for the little boy's thoughts.

Everything about the boy tells us that he is a rich man's son. But if we changed his clothes and cut his hair, he would be like any young boy who enjoys exploring alone and who likes to dream.

Sir Thomas Lawrence lived in England a hundred and fifty years ago. Very wealthy and important people had him paint their portraits. He liked to paint people in their handsomest clothes, dressed as though they were going to a party.

But this is more than just a picture of a handsome and rich young boy. It is a painting beautiful in colors that are warm, deep, and pleasing. The red orange of the suit is lovely, and the fine white collar directs our attention to the boy's thoughtful face. The artist has repeated the light in the water and on the far horizon to help balance our interest in Master Lambton.

George III liked Lawrence's work so much that he knighted him. That is why he is called *Sir* Thomas Lawrence.

LOCATION OF THE ORIGINAL:
PRIVATE COLLECTION

What Does This Picture Mean to You?

Have you ever sat on the edge of a cliff and watched the water?

Do you think Master Lambton came to this rock and called it his throne, or was he there because it was necessary for him to seek shelter?

At what is he looking? Do you think he is frightened or just thoughtful? Does he seem to belong to the rock throne? Would a suit of any other color blend so beautifully with the rock's colors? From what direction comes the light that makes us see the boy so clearly? Are the important colors warm or cool?

Have you ever sat under a tree and looked at the sky, an airplane, or a flock of birds? Could you make a poem of what you thought or felt? Do you know any English stories about little boys who might have been like Master Lambton?

Draw a picture of someone sitting down. Is it hard to make the person look natural? Try to make a color like that of the boy's suit.

Correlative Material

PHONOGRAPH RECORDS

Godard: "Berceuse," from *Jocelyn* (Victor 6630).
Handel: "Largo," from *Xerxes* (Victor 24529).
Kullak: "Evening Bells" (Victor 20079).
Schumann: "Scenes of Childhood" (Victor 7705).
Tschaikowsky: "Andante Cantabile" (Victor 24529).

POEMS

In *This Singing World*, by Louis Untermeyer (Harcourt Brace): "The Young Mystic," by Louis Untermeyer; "The Song of Honour," by Ralph Hodgson; and "Leisure," by W. H. Davies.

PICTURES

"Sackville Children," by Hoppner (No. 21, *Instructor Picture Study Series*).
"The Blue Boy," by Gainsborough (No. 50, *Instructor Picture Study Series*).
"The Calmady Children," by Sir Thomas Lawrence (THE INSTRUCTOR, September, 1934).
"A Boy with a Rabbit," by Raeburn (No. 22, *Instructor Picture Study Series*).
"The Strawberry Girl," by Reynolds (No. 46, *Instructor Picture Study Series*).

The Artist

■ THOMAS LAWRENCE, who was to become the chief painter to George III and receive the high office of president of the Royal Academy, was born in Bristol, England, on May 4, 1769. His father had been well educated as a lawyer, but, due to disposition or circumstance, his legal career ended and he became landlord of the Black Bear Inn of Devizes. Mrs. Lawrence was of gentle birth and charm.

Thomas, the youngest of sixteen children (the greater number had died in infancy), was singularly gifted as to looks, sweetness of manner, and artistic ability. He could recite long poems and make clever crayon portraits with equal skill when but five years old. The father capitalized upon his son's gifts, and at too young an age the boy was trained in the art of superficiality.

It is recorded that visitors at the Black Bear were often asked, "Gentlemen, here's my son. Will you have him recite from the poets or take your portraits?" So it was that when he should have been growing up as a normal boy, he was bringing trade to his father's business. When but ten years old he reaped a generous income for his family. They were then residing in Oxford, and this prodigy was sought after by many of the dignitaries. *(Continued on page 66)*

Listening and Learning—A Unit on Radio

FOR UPPER GRADES

HELEN M. WALTERMIRE

Teacher, Chatham Rural School No. 5,
East Chatham, New York

■ ONE day a discussion began in our social-studies class as to what radio programs we liked best. We were surprised at the great popularity of news broadcasts. Taking the news broadcasts up in detail, we discussed the influence of propaganda and the value of radio. The class came to the conclusion that radio was the most important means of communication in our modern world.

This being the case, we decided that we should all know more about how broadcasts are made, what rules govern broadcasting, and how we can get the most pleasure and profit from our home and school radios.

Only one child in the group had ever visited a broadcasting studio. Naturally we would have enjoyed a visit to Radio City, but since this was too far away we telephoned our local radio studio and made an appointment for a visit.

The trip was a great success. The children learned how very quiet one must be so that no undesirable sounds would be broadcast. They heard the people who were broadcasting talk in low, charming, natural voices. The glass partition made it possible for the girls and boys to watch the engineers busy at their work in an adjoining room.

When we left, each child was given a pamphlet, "How Schools Can Use Radio." Interest in radio grew and we succeeded in developing one of the best units of the year around this fascinating subject.

English Activities

1. Before we could really enjoy our radio at school, we had to take several periods to "learn to listen." We relaxed, stopped tapping our fingers or pencils, and began to enjoy and concentrate on the program being offered.

2. Program evaluation was then taken up in great detail. We classified the programs we heard for interest, educational value, humor, correct English, and so on.

3. Choosing the programs for our school and home listening was very important. We procured manuals from several broadcasting stations and bought a number of radio magazines. With the aid of these and our daily newspaper we carefully studied the programs offered and planned in advance what we should include in our listening program.

4. We wrote for manuals for the American School of the Air and the Damrosch programs and for the work sheets for the N.B.C. "Listening Lessons." The children wrote fan letters explaining why they had enjoyed certain programs.

5. Home listening assignments were discussed and those interested in the various topics reported to the class after the broadcasts.

6. The class decided to have a radio broadcast based on Benjamin Franklin and invite parents and friends. The announcer was chosen after carefully considering the voices of several children. We borrowed a real microphone from a local station. This we set up in the center of the platform and each speaker or singer was announced and spoke or sang into the microphone. We made our setting as nearly like the studio we had visited as possible. A very simple but effective program was worked out by choosing poems, stories, and songs which dealt with Benjamin Franklin and thrift, all taken from previous issues of THE INSTRUCTOR.

7. We wrote essays on these topics, which helped us with our study.

How Radio Makes Our School More Interesting
Radio in Other Countries
The Story of the Beginning of Radio
Radio and Police Efficiency
The Life Story of a Radio

8. Vocabulary.

announcer	television	static
microphone	aerial	interference
antenna	broadcast	sponsor

Music Activities

1. The programs of Walter Damrosch have always been one of our school favorites. By using the notebooks and teachers' guide available with his programs we enjoyed and profited from these periods more than ever before.

2. We made music notebooks listing, describing, and picturing favorite operas, light operas, instruments, folk songs, radio programs, and phonograph recordings.

Social-Studies Activities

1. Several of the best news programs were listed and at least once a day we listened in and then had a discussion period.

2. We made a sincere attempt to recognize propaganda both in national and foreign news broadcasts.

3. Fine work in health education, popularizing science, and good music were pointed out and discussed.

4. Maps of the United States and of the world were made showing the important broadcasting stations.

5. Each pupil wrote up a short history of radio and its development.

6. A radio bulletin-board committee studied the programs and posted notices, several days in advance of good programs which they found listed.

7. Discussion topics.

How radio has changed our daily life.

Should radio broadcasts be government controlled?

What are the advantages of the English system?

Arithmetic Activities

1. We compared the distance over which radio may be used with the distance over which television is practical.

2. We visited a local radio store to get data regarding prices, tubes, types of radios, and so on. From these facts we made practical examples to be solved by the class.

3. We consulted consumers' magazines and guides and discussed their findings regarding radios.

4. We made graphs comparing the number of radios with the number of television sets in use in the United States, showing the number of radios in use in 1929, 1939, and so on.

Science Activities

1. We wrote for the study aids offered for the "Science on the March" program. All the children were interested in using these when listening in at home.

2. Science notebooks were kept throughout the year and much material was gathered from the "Science Everywhere" broadcasts and leaflets.

3. Interest in science was stimulated by the programs and many additions were made to the museum corner.

Club Activities

Special programs were always called to the attention of the group should they be of interest to any of our clubs. The Stamp Club enjoyed "Calling All Stamp Collectors," and the Art Club liked "Art in the News."

Concluding Activities

1. We had a debate on the subject, "Radio is a good influence in our community."

2. We published a little magazine on radio programs—listing and discussing the best music, science, history, literature, and news broadcasts.

3. We prepared and broadcast a program over a local station.

The child should become a discriminating listener, aware of the great variety of programs of real quality available by careful selection. Since radio plays such an important part in the later life of the child, it is essential to teach good listening habits, critical analysis of programs and fine appreciation of the good things radio offers. We felt that this unit did much to accomplish these desirable ends.

Would you know that these tracks had been made in the snow by a muskrat? *L. W. Brownell*

Science Excursions in Winter

FOR ALL GRADES

IDA K. BRINK

Elementary Supervisor,
Lincoln Consolidated Training School,
Ypsilanti, Michigan

MANY of us think of spring days and Indian-summer weather as the ideal times of year for outdoor science excursions. However, the out-of-doors in winter holds much that will enrich our classroom teaching of science if we will only venture out.

In these days of snow suits and other warm play clothes there are but few days when a winter excursion is not advisable. It is well to set the day for the excursion some time in advance so that everyone will be prepared to dress even a little more warmly than usual if the weather happens to be very cold. An extra scarf or sweater will keep a child very comfortable and make it possible for him to contribute to the excursion and also to get something from it.

The following suggestions for winter excursions have been tried with children and have been found to be in accord with their science interests and on the level of their abilities. They have furnished situations in which children have had firsthand experiences in discovering new things about science which they could not have had in the classroom alone.

Some of the excursions were taken to supplement a science unit being developed at the time; others were for the purpose of arousing new interests on which to build units; and still others were taken chiefly because there were interesting things to see.

Although every school environment has its own particular opportunities for science excursions, here are some suggestions that are adaptable to most situations.

1. Go to some sheltered place, stand still for a few minutes, and listen for winter bird sounds. A crow may caw, a woodpecker tap on a tree, a blue jay scold, or a chickadee sing.

On this same excursion watch for winter birds to see what they are doing. You may see a nuthatch heading down a tree trunk or see it slip its bill into a crack in the bark to get an insect egg. The white outer tail feathers will identify a small flock of slate-colored birds as juncos. You may see cardinals getting berries from the shrubbery near the school, and if you are near a field you may see a hawk circle down to pick up a mouse or some other small animal.

Back in the classroom after this excursion, the children may like to post pictures of the birds which they have seen or heard. They may want to read to find out more about some of them, or to listen to music imitating birdcalls.

2. On another day go out to see where animals stay in winter and how they get food. On such an excursion a cottontail rabbit may dart out of its form or winter shelter in a bush or tall grass. If the children look into the form, they will see how a rabbit finds protection from the cold.

The runways and feeding places of meadow mice are not difficult to find wherever there is tall grass. The entrance to a woodchuck's hole in a hillside or near a wood will give a glimpse of a place where an animal is spending the winter in hibernation. Counting birds' deserted nests gives an idea of how many birds migrate for the winter season. *(Continued on page 68)*

SNOW means little to six-year-olds in the South. Last year I wrote a song in the hope that it would help them understand seasonal changes. The results were very satisfying. The children watched with interest the great flocks of ducks that came to our lakes during the winter months, and an enjoyable unit on ducks developed. Many of the children, who are now in the second grade, greeted me enthusiastically one day with the news that they had seen the first ducks for this year, so cold weather must be coming soon. A few days later we had our first cold weather. I thought that other primary teachers of the South might find "Our Winter Visitors" useful.

OUR WINTER VISITORS

WORDS AND MUSIC BY MAY C. STUART

The lit - tle ducks fly from the North To vis - it us each year They
find the snow too cold for them— They like it bet - ter here. These
lit - tle tour - ists make their homes Be - neath the bright warm sun. They
dive and swim up - on our lakes, And have a world of fun.

Tests for Middle and Upper Grades

A Vocabulary Test

Alvin E. Kinney

Teacher of English, Grades Six to Eight, Public School, Bethpage, Long Island, New York

■ THIS vocabulary test should interest teachers who use "Aladdin and the Wonderful Lamp" in their literature classes. Give the test before and after reading the story.

From the four meanings in parenthesis, select the synonym.

1. False (fault, untrue, genuine, drop).
2. Genie (nature spirit, precious stone, famous person, old man).
3. Exchange (money, excuse, build, swan).
4. Sultan (player, king, insult, fruit).
5. Unjust (undo, unfair, uncouple, fix).
6. Transported (carried, played, trained, walked).
7. Intending (covering, planning, losing, watching).
8. Grasped (freed, dropped, grouped, seized).
9. Cunning (beautiful, sleeping, sly, reading).
10. Sup (broth, slip, bring out, eat).
11. Desire (stop, fun, promise, wish).
12. Courteous (judging, neat, clumsy, polite).
13. Perishing (dying, soldier, coughing, seeing).
14. Ailment (mother, canal, sickness, meaning).
15. Request (bequest, search, ask, shout).
16. Astonishment (prosperity, disappearance, amazement, adjustment).
17. Kindle (light, wood, cattle, relatives).
18. Hideous (secret, ugly, den, friendly).
19. Boldly (loudly, bravely, nearly, slowly).
20. Persist (fruit, stop, awake, continue).
21. Jasper (precious stone, girl, window, file).
22. Enchantment (singing, spell, picture, arrangement).
23. Laden (empty, fallen, loaded, lead).
24. Consented (spent, sent, hit, agreed).
25. Proclaimed (played, worked, wanted, announced).
26. Magician (enchanter, merchant, uncle, vizier).
27. Roc (boulder, imaginary bird, stone, shake).
28. Hesitated (whistled, faltered, marched, stated).
29. Deceived (tricked, observed, seen, occurred).
30. Reigned (blew, stormed, ruled, stopped).
31. Lamenting (sorrowing, leaving, limping, loafing).
32. Beguiled (threatened, grieved, found, fooled).
33. Plunge (dive, fall, carry, skip).
34. Disclosing (revealing, shutting, disputing, closing).
35. Summoned (arrived, seen, called, wintered).
36. Contrive (confer, trip, plan, shout).
37. Poverty (illness, wealth, need, friendly).
38. Amiss (girl, wrong, aim, slave).
39. Hither (there, batter, grass, here).
40. Chink (crack, akin, extra, cheat).
41. Accomplished (published, started, done, struck).
42. Innocent (penniless, pure, guilty, lost).
43. Jeering (joking, mocking, cheering, weeping).
44. Scimitar (short spear, curved sword, square shield, old game).
45. Elapsed (leaped, pressed, sped, passed).
46. Prevailed (persuaded, covered, steady, lost).
47. Scaling (running back, escaping, climbing over, fishing).
48. Arrayed (adorned, ranged, shone, rang).
49. Pious (prop, hungry, religious, false).
50. Disguised (dispute, disgusted, argued, hidden).

(*For key, see page 65*)

Does this child have good posture? What are your reasons for thinking so? *H. Armstrong Roberts*

A Posture Test

Milton C. Eastman

Teacher, Seventh and Eighth Grades, Odell Public School, Odell, Illinois

If the statement is true, write T *after it; if it is not true, write* F.

1. The careless, lounging person with a shuffling gait arouses suspicion.
2. Bad health may cause poor posture.
3. Furniture has no influence on posture.
4. No harm is done by regularly sitting on the same foot.
5. Schoolroom desks should be adjustable.
6. Good posture means using the body effectively in whatever you are doing.
7. The muscles play no part in correct posture.
8. A correct shoe aids good posture.
9. In a good standing posture, your weight goes forward toward the balls of your feet.
10. A person should always walk with his weight over his heels.
11. The bones have a part to play in good posture.
12. It is wise to carry your schoolbooks in the same hand all the time.
13. A cramped position makes breathing difficult.
14. In order to walk correctly, make your knees stiff.
15. Poor posture is often the result of bad habits.
16. Good posture helps to make you more capable.
17. Employers pay little regard to the posture of their employees.
18. Fatigue leads to poor posture.
19. Good posture helps to decrease your self-respect.
20. Athletic coaches seldom regard posture as an important factor in their players.
21. Poor posture may influence your weight.
22. Improved posture may decrease digestive disturbances.
23. A person who has acquired the bad habit of bending over can never learn to straighten up.
24. Stiff posture is good posture.
25. Good posture is not essential in playing games.
26. A thick pillow is essential for correct sleeping.
27. Eating the right kind and amount of food is an aid to good posture.
28. To stand erect throws an undue strain on certain sets of muscles.
29. Leaning forward in your chair should be from the hips and not from the waist.
30. Nearsightedness is a cause of poor posture.
31. Habits of poor posture are more easily overcome when you are old.
32. In walking, the feet should point directly forward.

(*For key, see page 65*)

Arithmetic Made Real

Helen R. Bailey

Formerly, Principal, Allamuchy School, Allamuchy, New Jersey

THE girls and boys of Allamuchy School enriched their arithmetic through the following problems that they found in their daily work.

I. Our Marks

Children delight in rechecking their written work and figuring their percentages. This occurs in whatever classes the papers are handed back. The following type problems show some uses of percentage.

1. We had 25 words in spelling today. Each word counted how much? If you had 18 correct, what is your percentage?

2. Today we had 20 sentences to punctuate. How much credit should each sentence receive? How many did you have correct? Figure your own percentage.

3. We were asked 32 questions on our social-studies test. If you had 29 right, what would your percentage be? Carry answer to two decimal places.

II. Banking

The boys built a bank across a corner of the room. Any pupil in the school was allowed to bank on any school day. One upper-grade girl was appointed teller for an entire week. Sometime during the year, each child in the room had an opportunity to act as teller. The arithmetic skills involved were as follows.

Simple addition.

The uses and purposes of passbooks, deposit slips, and checks.

Making change.

Finding the percentage for each room to determine which should receive the thrift banner.

In order that we might have a permanent record of the weekly percentages for each room, three bar graphs were made. Each week a child was appointed by the group to fill in the bars for that particular week.

III. Hot Lunches

Each summer the 4H Canning Club canned vegetables to be used in the school for hot lunches during the winter months. All of these vegetables were donated by the parents. The children wanted to know the value of these vegetables. A committee visited Mr. Stevens' local grocery and obtained prices. The following set of problems was composed and solved by the pupils.

1. Find the amount of vegetables that were canned during the summer if the girls had 40 qts. of celery; 6 qts. of corn; 70 qts. and 1 pt. of string beans; 34 qts. of carrots; 12 qts. of onions; 99 qts. and 3 pts. of tomatoes; 24 qts. and 2 pts. of soup; 3 qts. and 10 pts. of applesauce; and 2 qts. of mixed vegetables.

2. Mr. Stevens said that most of the vegetables that he sold represented pints at 12 cents, 17 cents, and 18 cents. How much is the corn that the children canned worth at 12 cents per pint? At 17 cents? At 18 cents?

3. What is the average price of a pint of corn at Mr. Stevens' store?

4. Using the average price as the basis, find the value of the 6 qts. of corn that the club canned.

5. If mixed vegetables sell for 2 cans (pints) for 25 cents, find the value of 2 qts.

6. Potatoes were worth 90 cents a bushel. One father donated ½ bu. of potatoes, another ¼ bu., and a third 15 lbs. Find the value.

7. Onions were selling for 75 cents per bushel. Mrs. S. donated 1 bu., and Mrs. F. ½ bu. Find the value of these donations.

8. A good friend donated 4 qts. of milk each day. Milk at the farm sold for 8 cents a qt. How much was the milk worth a week? A month?

9. In all, 4962 servings were given during the 80 cold days during which we served hot lunches. What was the average number served per day?

10. The records of the canning club girls show that in the first week they canned 20 qts.; the second week 25 qts.; the third week 16 qts.; the fourth week 32 qts.; and the fifth week 41 qts. What did they average per week?

11. On the day before Easter we served a colored egg to each child. There were 96 children in the school. The egg dye cost 30 cents. If eggs were worth 25 cents per dozen, how much did all of the Easter eggs cost?

12. Of the 101½ qts. of tomatoes canned, Mrs. V. donated enough for 25 qts. What per cent of the tomatoes was donated by Mrs. V.?

IV. Our School Trip

Our annual spring trip took us to New York by bus and up the Hudson River to West Point by boat. Since we earned part of the money for our trip, we had need to use arithmetic facts.

1. If it is 62 miles from Allamuchy to New York and approximately 50 miles from New York to West Point by boat, how many miles will we travel on our trip?

2. If Mr. Smith charged $1.50 to take each of us to New York, and the boat fare was $1.00 per person, how much money was needed for the 42 pupils in the room?

3. If each pupil contributed 75 cents toward the trip, how much did we need to earn?

4. If 40 of the 42 pupils enrolled went on the trip, what percentage went?

5. The amount taken in at the party in January was $30.60. How much did we make if we spent 20 cents for napkins, 55 cents for decorations, and $2.00 for cookies?

6. From the annual P.T.A. supper we received $15.68, 25 per cent of the profits. How much was cleared? *(For key, see page 65)*

A Test on Europe

Priscilla Resnick

Teacher, Sixth Grade, Public School No. 27, Jersey City, New Jersey

Cross out the word that does not belong in the sentence.

1. Some mountains of Europe are the: Pyrenees, Carpathians, Himalayas, Apennines.

2. The boundaries of Europe include the: Bay of Biscay, Mediterranean Sea, Adriatic Sea, Arctic Ocean, Pacific Ocean, Ural Mountains.

3. The island of Great Britain contains: England, Wales, Scotland, Northern Ireland.

4. The principal cities of France are: Paris, Loire, Marseille, Lyons, Bordeaux, Lille, Nice, Le Havre.

5. Some of the agricultural products of Germany are: rye, oats, potatoes, tea, grapes, sugar beets.

6. Italian exports are: olives, olive oil, raw silk, fruits, bulbs, wine, motor cars, Venetian glass.

7. The peninsulas of the European continent include the: Iberian, Scandinavian, Siberian, Italian, Jutland.

8. The following are capital cities of Europe: London, Madrid, Berlin, Naples, Dublin, Athens.

9. The races of Europe include the: Celts, Arabs, Teutons, Slavonians, Latins, Mongols.

10. The following republics were formed after the World War: Estonia, Czechoslovakia, Lithuania, Switzerland, Latvia.

11. The principal islands of Europe are: Great Britain, Ireland, Iceland, Australia, Corsica, Sardinia, Sicily, Malta, Crete.

12. The following are European seas: North, Ladoga, Baltic, Ionian, Mediterranean, Adriatic, Aegean, Black.

13. The countries of Europe in which agriculture is one of the important industries are: Italy, Hungary, France, Germany, Finland, England.

14. The continents larger than Europe are: North America, South America, Africa, Australia, Asia.

15. The European countries which were covered by the ice sheet of long ago are: Iceland, Norway, Sweden, Finland, Russia, Rumania, Denmark.

16. The countries lying wholly or partly in the Balkan peninsula are: Hungary, Greece, Yugoslavia, Rumania, Bulgaria, Turkey.

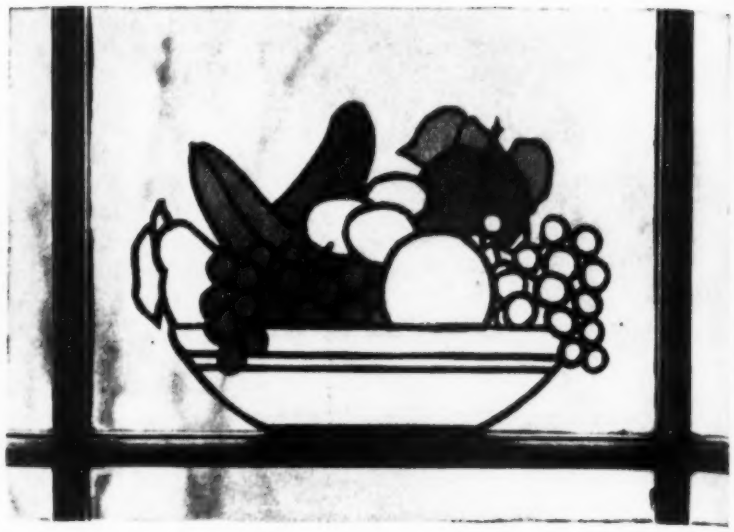
17. Great Britain, France, Germany, Belgium, Spain are important manufacturing countries.

18. Rivers of Germany are: Dnieper, Oder, Elbe, Weser, Rhine, Danube.

19. The Prime Meridian crosses through: England, Scotland, France, Spain.

20. Norway, Switzerland, Denmark, Holland, Great Britain, are important fishing countries. *(For key, see page 65)*

HANDWORK—THINGS TO DRAW, PAINT, OR MAKE



A Window Transparency

FOR MIDDLE AND UPPER GRADES

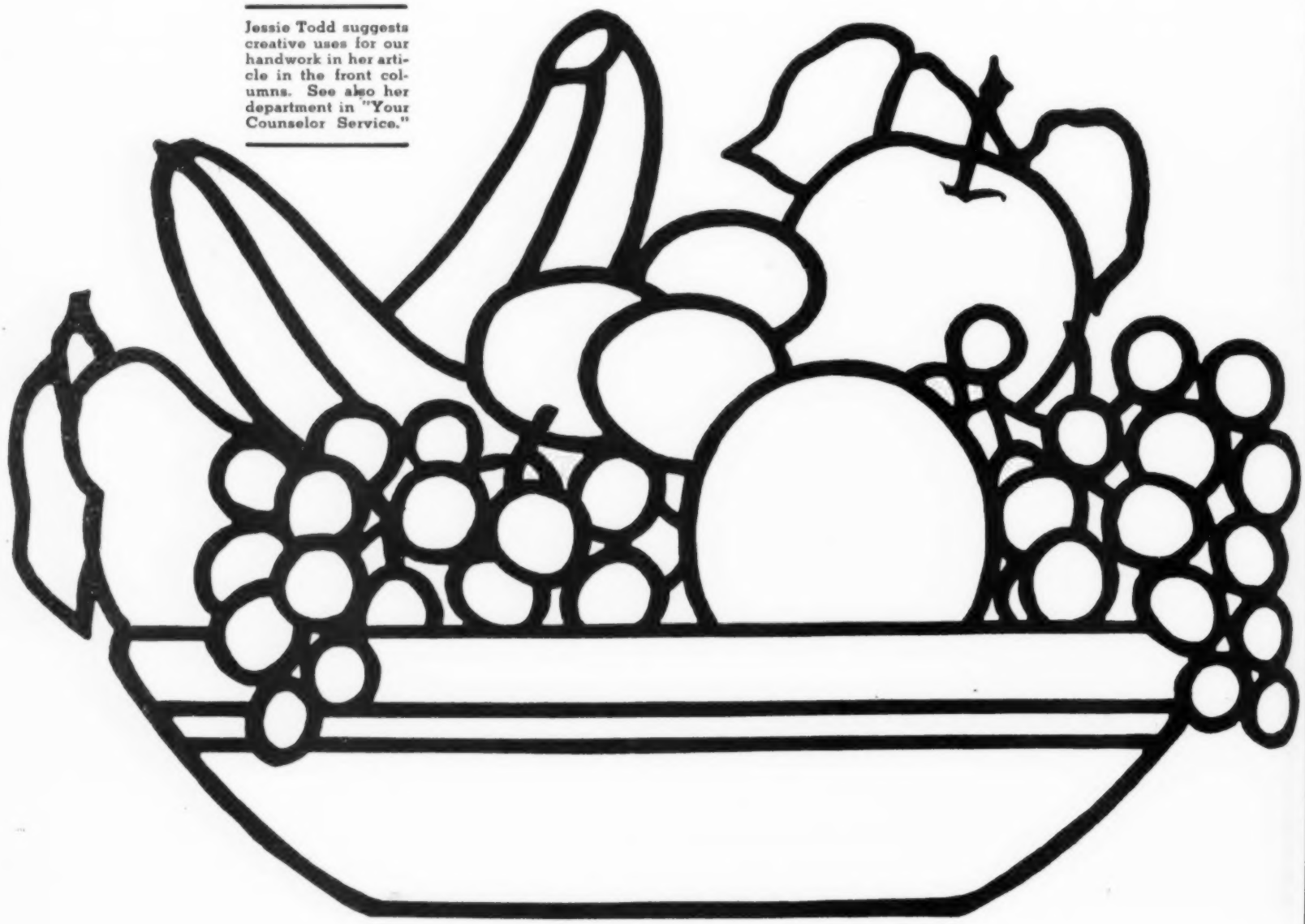
GLADYS LITTLEFIELD

■ CUT this design from black construction paper. The portions to be cut out are shown in white. Use a knife or a razor blade and sharp-pointed scissors. Take some bright blue tissue paper and cut it the shape of the bowl. Paste it on the back of the black construction paper where the bowl is represented. Next cut the shapes of the fruit from paper of the proper color, and paste them in place.

Another way to make the transparency would be to cut the individual shapes—the bowl and various kinds of fruit or vegetables—and paste in place tissue paper in appropriate colors. Then arrange the fruit or vegetables attractively.

Put the completed transparency on a windowpane. The light shining through it will make the bowl of fruit lovely to look at, and will bring a welcome sparkle and touch of color to your schoolroom.

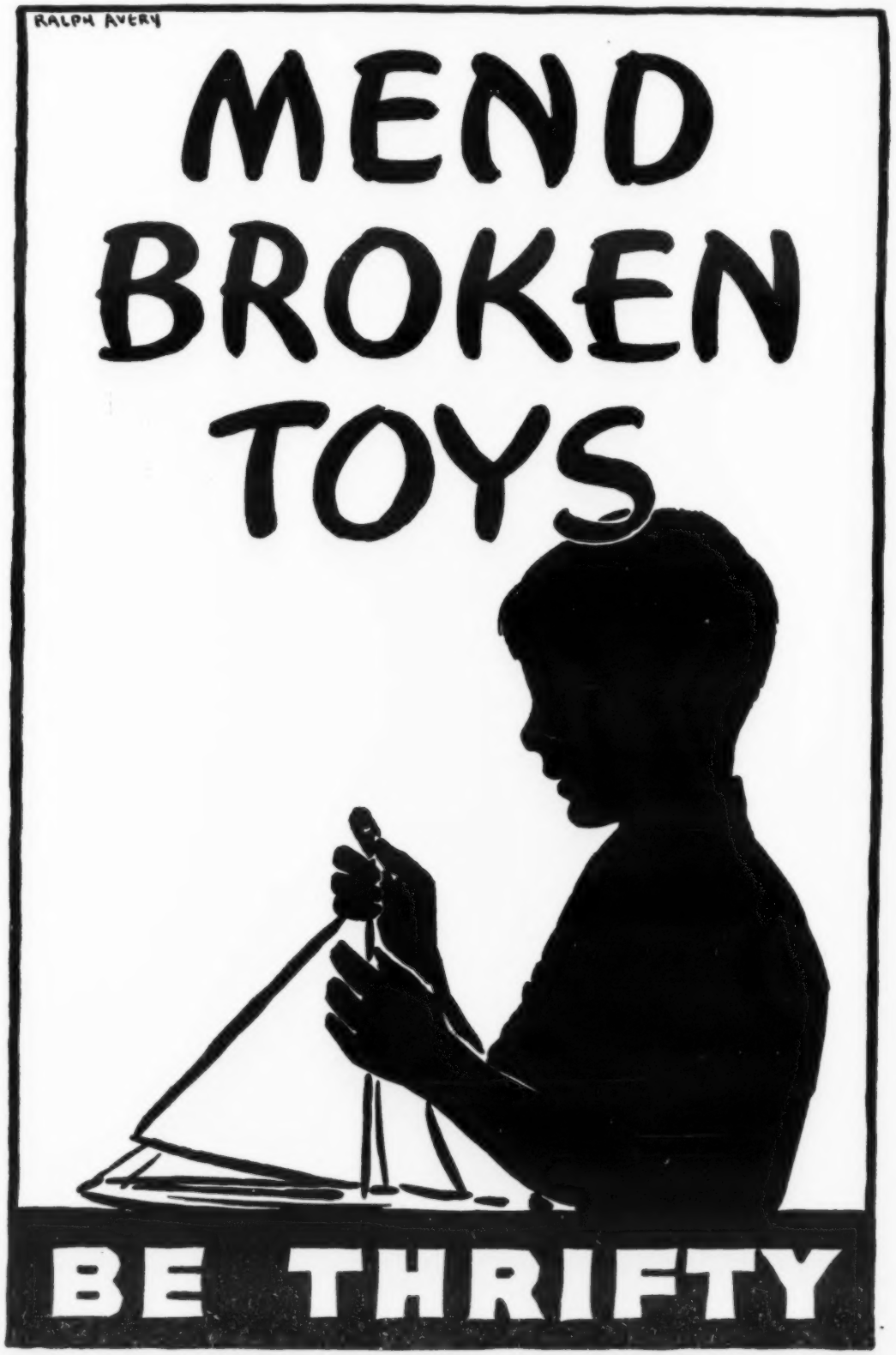
Jessie Todd suggests creative uses for our handwork in her article in the front columns. See also her department in "Your Counselor Service."



See page 67 for suggestions for using these posters.

Posters for January

RALPH H. AVERY
Teacher of Art, Mechanics Institute, Rochester, New York

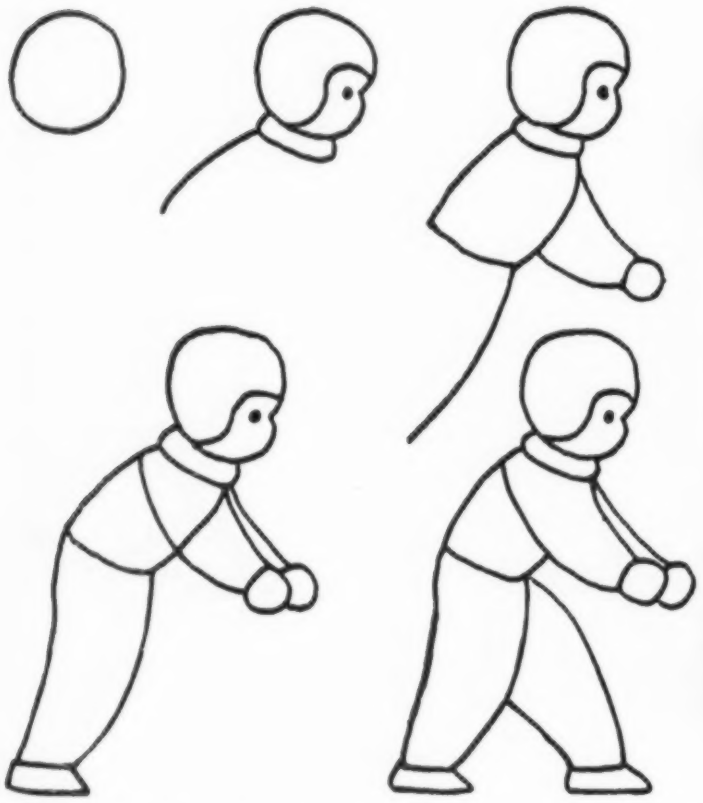


Step Drawings of Children Shoveling Snow

FOR PRIMARY AND MIDDLE GRADES

JESSIE TODD

Supervisor of Art, University Elementary School, University of Chicago



■ CHILDREN will enjoy drawing snow scenes. Draw a circle for the head of the child. Make a line to suggest the hair. Add a dent for the face. Draw the eye, the collar, and a slanting line for the back.

Draw the front of the waist. Two lines will make the sleeve. Add a ball for the hand and a line for the leg.

Finish the leg as shown in the picture. Add the other arm and hand.

Then draw the other leg.

Color the snow suit so that the front line of the waist does not show. The shovel can be drawn as shown in the picture. The entire shovel does not show because snow covers it.

It will be fun to draw the snow on the trees. The dark parts of the trees can be made brown or black. The snow suit on the child can be made bright red or blue to add color to the picture.

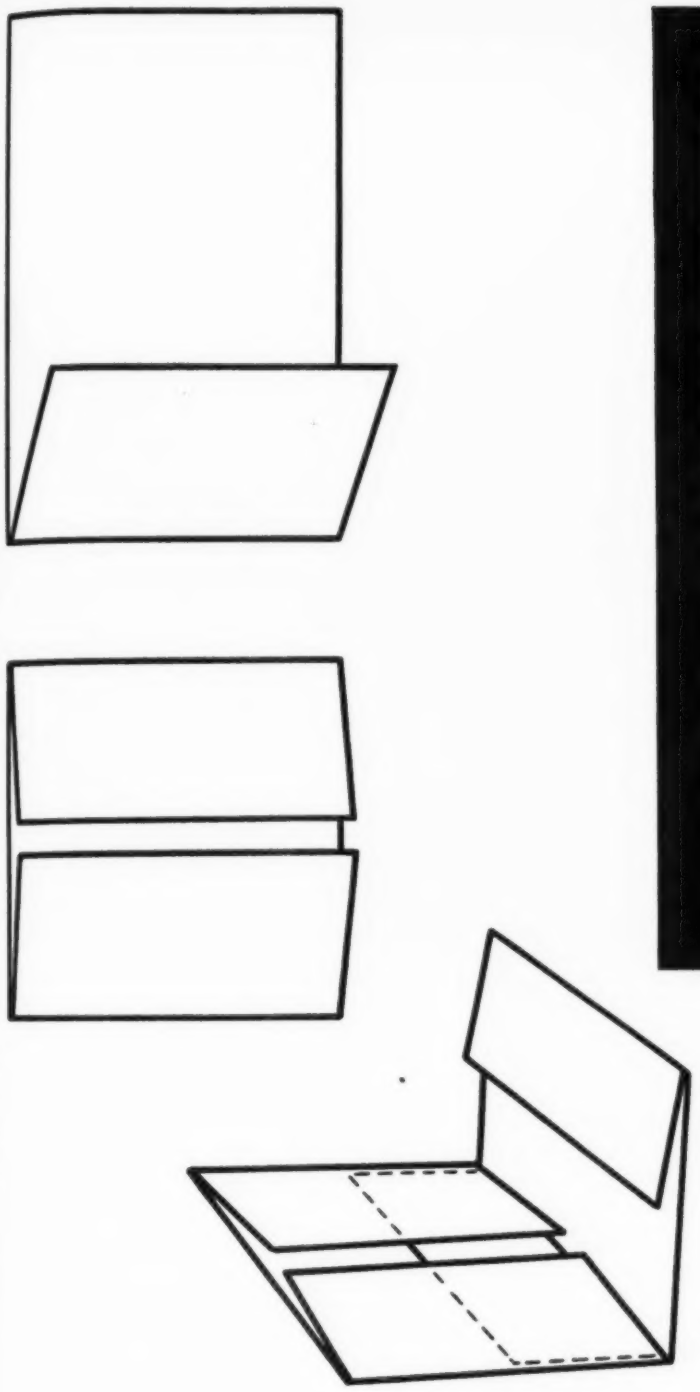
For the front view of the child, draw a circle for the head. Then draw a line for the cap. Finish the cap. The face is very easy to draw if you will follow the lines in the picture. Draw the collar and a line for an arm.

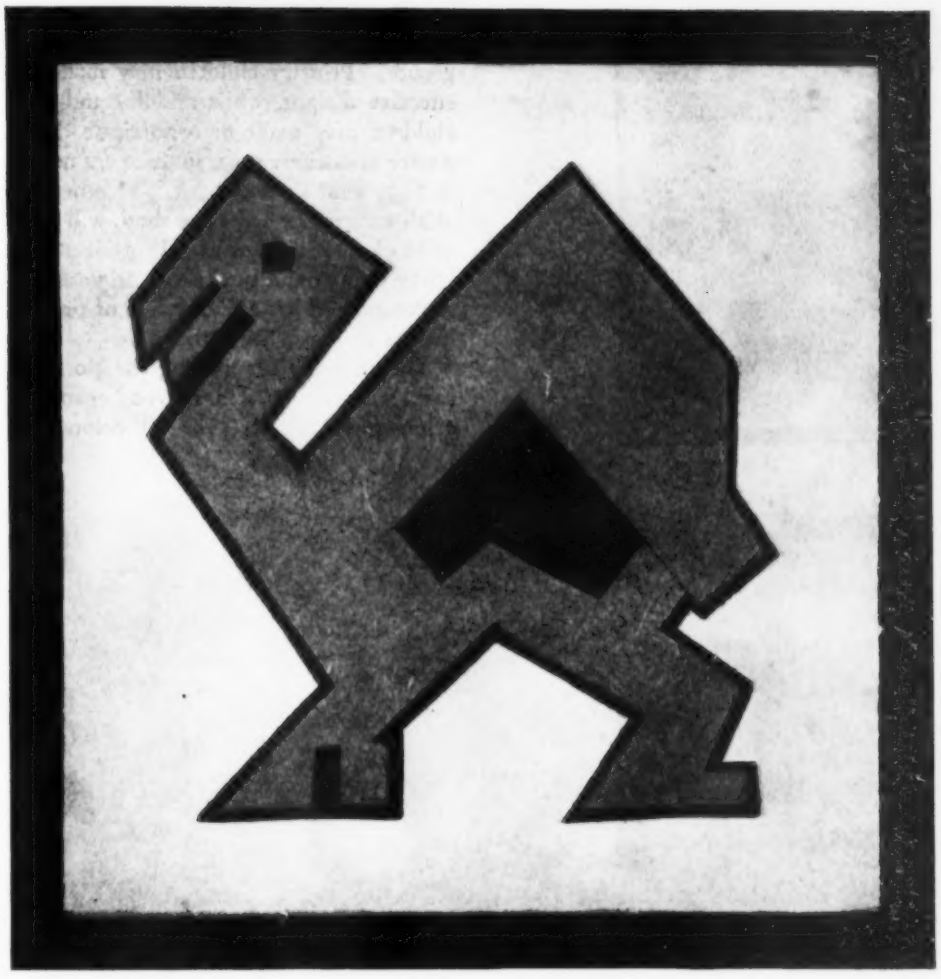
The hands can be made like balls. Follow the steps in the illustration until the child is completed.

The trees in the lower picture have snow on them as they do in the first illustration. The bare part of the road may be made brown. If you wish to have the child shoveling a sidewalk, you can make it look like red brick. A bright-colored snow suit on the child will add color. The house may also be made a gay color.

These illustrations will teach you how to draw bare trees in many other pictures. Often the snow stays on only one side of the tree. It melts on the side which is toward the sun, or the wind blows it off.

In these pictures you will learn how to draw trees so that the base is *(Continued on page 66)*





A Simple Paper-Folding Lesson

FOR PRIMARY AND MIDDLE GRADES

STELLA E. WIDER

Associate Supervisor of Art, Public Schools, Lynchburg, Virginia

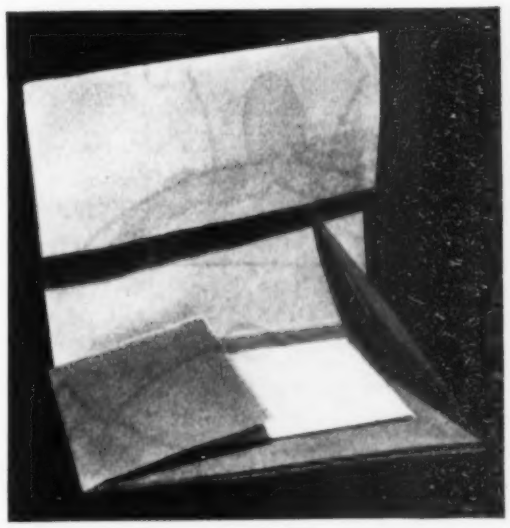
PROBLEMS in paper folding are very good for girls and boys. They help train wayward muscles of the hands. They train eyes to see straight. They also encourage children to be careful and accurate in their work. Above all else, problems involving careful paper folding give much pleasure and satisfaction to the pupils, even in grades as high as the seventh, through results obtained and skills acquired.

Children will greatly enjoy making a Chinese envelope and puzzle. Two pieces of drawing or construction paper should be cut accurately, twice as long as wide, for example, 12″ x 6″. Find the exact center of a longer edge of one of these papers. This is easily done by holding two corners firmly together between the thumb and finger of one hand, and pinching a slight crease to mark the center with the other hand. Do not make a fold across the center of the paper. Having thus found the center, on one side only, without any disfiguring or inaccurate pencil marks, lay the paper on some flat surface such as a desk or table.

Next, fold one of the shorter ends of the paper exactly up to the center crease. Hold the paper firmly at the edge and press toward the other edge. Do the same thing with the other short end.

Fold the second piece of paper in the same manner as you did the first. Insert a short edge of one of the papers under the two folded edges of the second paper. Do the same thing with the remaining short end when you want to close the envelope. When closed, the envelope presents a perfectly square face on both sides, the means of closing being invisible. The wide flaps make it unnecessary to use paste. The paper from which the envelope is made may be colored with water color, tempera paint, or ink, if colored paper is not used.

For the puzzle and decoration of the envelope, sketch a simple design large enough to fill the face of the envelope in good proportion. Pictures of funny animals, large flowers, ducks, geese, or funny people are suitable. Place the pencil sketch over two brightly colored papers



to be cut out. Hold the sketch and the two colored papers together firmly. Cut all three papers at the same time. This method of cutting papers is far superior *(Continued on page 67)*

Sheet-Cork Printing Blocks

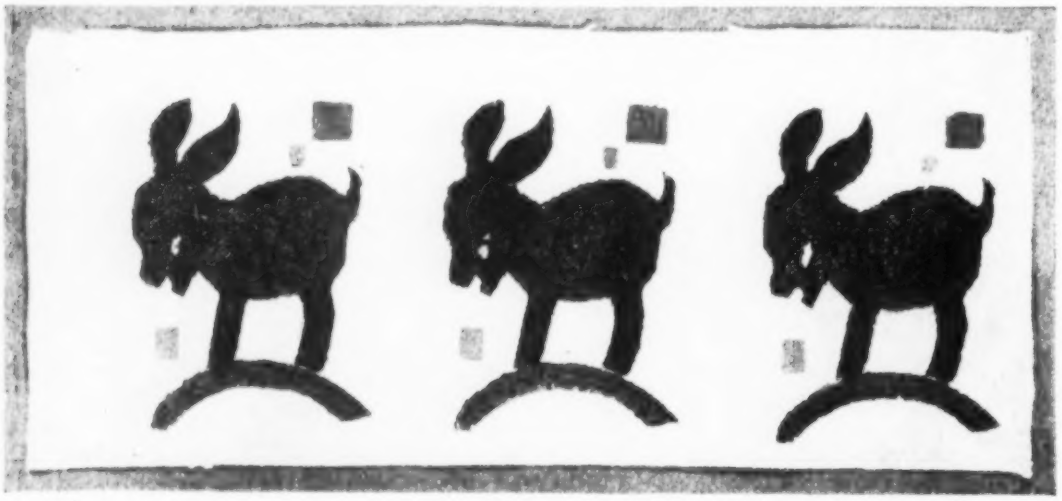
FOR ALL GRADES

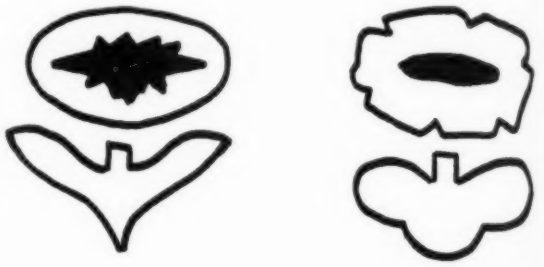
VIOLA JAMISON

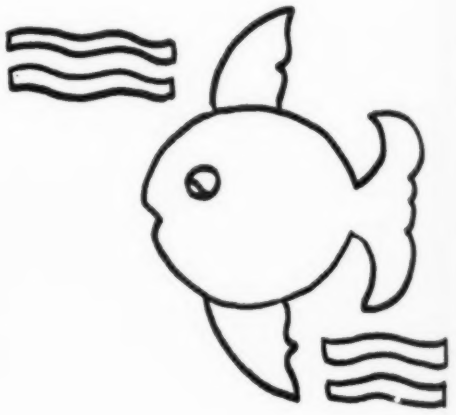
■ THE use of sheet cork as a medium for block printing is adaptable to all ages of school groups. Primary children may make simple but effective designs, while middle- and upper-grade children may make more intricate designs. Ordinary scissors are used, so there are no cut fingers. A forty-cent sheet of cork, which may be bought at an automobile accessory shop, will make dozens of blocks. All scraps may be utilized. This craft offers a fine opportunity for original design construction, and has a wide range of practical applications in school decoration.

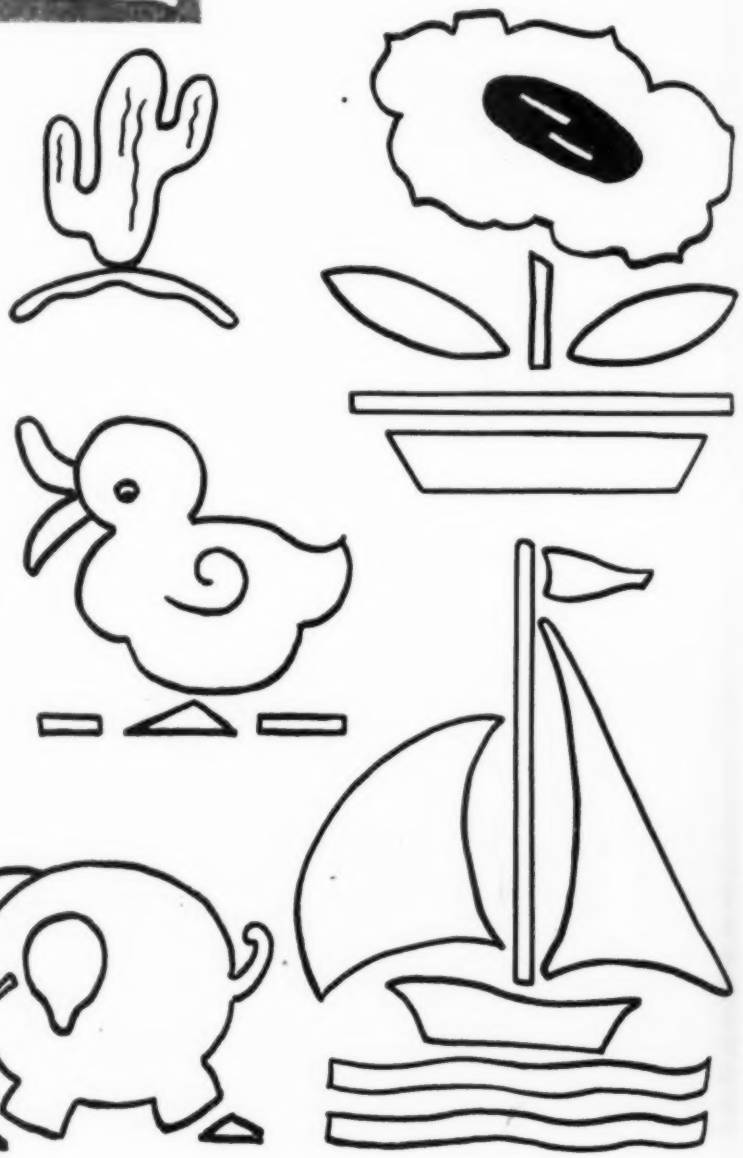
The materials for making the blocks are: sheet cork, scissors, glue, and plywood or soft pine. For printing the block, tube oil colors, enamel, or block-printing ink, turpentine, brushes, palette (piece of glass), and soft cloths are needed.

To make the block, draw a design on cork, or it may be traced with carbon paper. Cut out the design, taking care to cut out also the black spaces. Eyes of animals may *(Continued on page 68)*









RALPH AVERY
SPEND ENERGY
WISELY

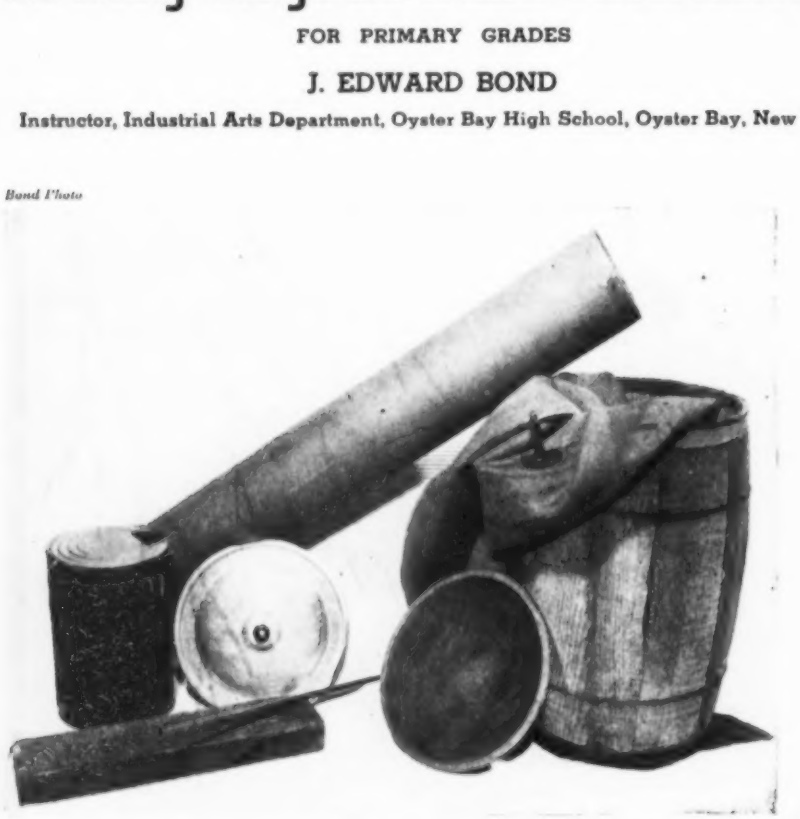
Making Rhythm-Band Instruments

FOR PRIMARY GRADES

J. EDWARD BOND

Instructor, Industrial Arts Department, Oyster Bay High School, Oyster Bay, New York

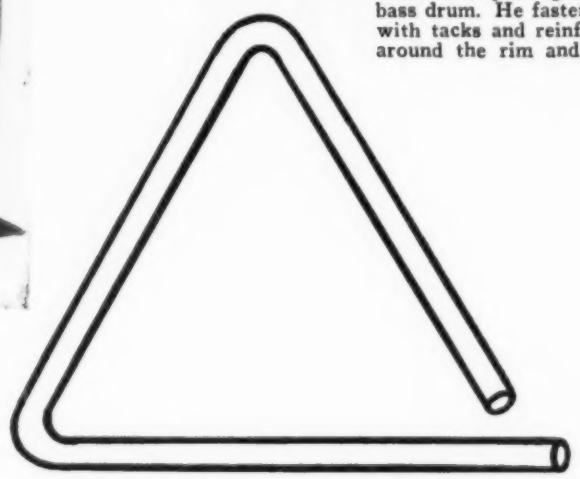
Bond Photo



These materials were used in making instruments: waste wood, oil-can, utensil cover, piece of brake rod, chopping bowl, nail keg, inner tube, and a cardboard tube about which linoleum was wrapped.

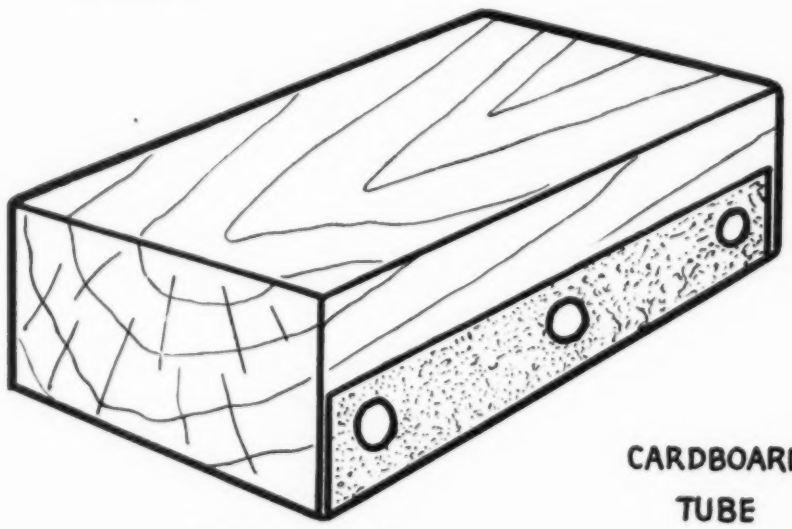
Bond Photo

Edward is putting the finishing touches on his bass drum. He fastened the inner-tube drumhead with tacks and reinforced it with wire brought around the rim and twisted tight with pliers.



TRIANGLE

NAIL KEG DRUM



SAND BLOCK

CARDBOARD TUBE DRUM

■ EXPERIENCE has taught us the value of a rhythm band in the primary grades. There are few persons who are not stirred by martial music, and children especially love to march and dance. How satisfactory to them it is to march or dance to the rhythm of instruments made by their own hands.

Instruments for the rhythm band are simple to make, and, with a little work, the pupils and teacher can turn out a fine collection. They are listed here with the materials we will use.

Instruments	Materials
Drums and tom-toms	Cheeseboxes (round) Oilcans (round, two-gallon) Nail kegs Chopping bowl Cardboard tubes around which linoleum rugs are rolled Inner tubes (for drumheads)
Cymbals	Cooking-utensil covers Ends from roofing rolls from lumberyard
Triangle	Brake rods from garage or junk yard
Sand blocks	Scrap two-by-four pieces from home or lumberyard Sandpaper from hardware store
Bells	Jingle bells from home or junk yard

Drums and Tom-Toms

The supporting walls of drums and tom-toms should be sturdy enough to stand the strain of the heads which will be stretched over each end. Before the heads are fastened over them, the bodies may be painted.

Painting in the classroom often presents quite a problem to the uninitiated, but, as a matter of fact, it is not so bad as it might seem. To prepare for painting, newspapers may be placed on the surface of the workbench, table, or floor where the work is to be done. Be generous with the papers and separate them in such a way that there is a distinct working place for each of three or four children.

At each of these three or four painting stations, a single can of paint and a brush may be set out. By having the pupils take turns at painting at whichever station offers the color of paint they wish to use, time can be saved and this step in making the instruments can be completed in one day.

The bodies of the instruments in their shiny new coats of paint may be set on newspapers along one side of the room to dry. A cheap grade of quick-drying enamel has been found very satisfactory.

When the drum bodies have dried, the next step is the fastening of the heads, which can be made of the rubber from old inner tubes. In cutting them, care should be taken to make them about 2″ larger in diameter than the end of the instrument they are to cover.

On the bodies made of metal or a cheesebox, it has been found best to punch holes about the edges of the material to be used for the heads and lace them on with strong cord. Brightly colored balls of cord, which are most satisfactory, can be obtained in the five-and-ten-cent store for five cents.

The holes through which the cord will be laced are best made with a round-hole punch, which almost every school has as part of its equipment. These holes are best if spaced about 3″ apart.

On the drums made of strong wood or cardboard, like the chopping bowl, the nail keg, and the cardboard tube around which linoleum is rolled, thumbtacks or carpet tacks may be used to hold the heads securely.

Cymbals

The cymbals are simple to obtain. Nearly every kitchen has an extra kettle cover or two. Those made of aluminum are best because they have a smooth underside without a sharp edge. Other types of material which may be used are the metal ends which protect rolls of tar paper used in house construction.

The handles for the cymbals may be of either rope or leather, about 10″ or 12″ long, knotted at each end. The rope is grasped at its center with the knots hanging against each other. The center portion of this handle is then pushed up through the hole in the cymbal until it is stopped by the knots. A piece of red or green ribbon tied on the handle provides decoration.

Triangle

At least one triangle should be made for every band. An old brake rod from an automobile, which may be found in garages and junk yards, makes the best type of instrument. The rod is of steel, and, though fairly easy to bend, has a resonance that other types of metal rods do not have.

Any length of rod from 18″ to 36″ may be used. If there is no hack saw for cutting the rod in school, it can usually be cut at the place where it is obtained.

The rod is bent to its triangular shape by placing it in the vise with the mark for the bend just showing where the vise jaws come together. The part of the rod extending above the vise is grasped in both hands and pulled toward the worker. When the steel has been bent to the proper angle, the work is removed from the vise and the process repeated at the other mark. The two ends of the finished triangle should not touch each other, for the vibration of the whole piece produces its tone, and the touching of the two ends would stop the vibration.

The triangle when finished is hung on a colored cord or ribbon which is held in one hand. The instrument should be struck with a piece of the same kind of material from which the triangle is made.

Sand Blocks

Pieces of two-by-four or other blocks of wood of approximately the same size may be used in making the sand blocks, which, when rubbed together, produce (*Continued on page 69*)

Bond Photo

A variety of instruments is used in this rhythm band (above), such as the dried and painted gourd (left, upper row) and the dry, hollowed-out tree limb which is struck with a mallet (second from left, lower row). The girls (right) are improvising a dance to rhythm-band music.

Bond Photo

JACK AND JILL

*

A WALL HANGING OF CUT PAPER

MABEL BETSY HILL

■ THE hanging shown in the photograph is very gay. The paper used was bits of wrapping paper, note paper, and so on, that happened to be at hand. The brighter the colors, the more effective the wall hanging will be.

A suitable size for the hanging is about four times that of the drawing on this page. Select papers of different colors for the various parts—green for the grass, a different shade of green for the leaves and stems of the flowers, and a very pale blue for the sky.

On a sheet of firm white paper, paste the sky, with the top edge irregular to resemble clouds. At the bottom of the sheet lay the grass. Before pasting it down, insert the stem of the flower at right just back of the grass, as shown in the design, and paste it. Paste the blossom on the flower. Next paste the grass down very carefully and neatly.

The complete figures of Jack and Jill should be cut alike from pale pink paper. Cut the whole pail and a circle for Jill's hat in suitable colors.

Lay Jill, Jack, and the pail in position, to look as though the children were carrying the pail. Paste the pail. Put Jill's hat beneath her head, and paste it. Now paste both Jack and Jill in place, their hands holding the handle of the pail. (*Continued on page 69*)

In her article in the front columns, "How to Use the Handwork in This Issue," Jessie Todd makes a variety of helpful suggestions.

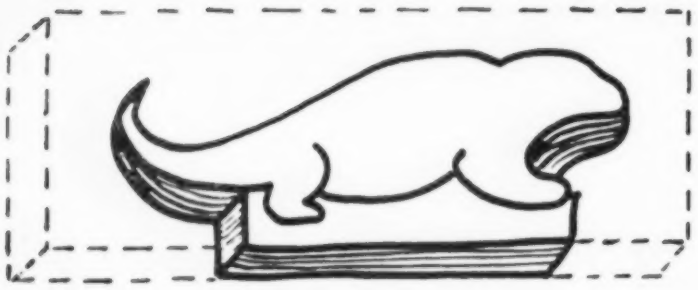
THRIFT
IS A
GOOD HABIT

RALPH AVERY

See page 67 for suggestions for using these posters.

Thrift Posters

RALPH H. AVERY
Teacher of Art, Mechanics Institute, Rochester, New York



The children made many dinosaur models from rubber inner tubing, and then gave each one a coat or two of lacquer.

Dinosaur Models

FOR MIDDLE GRADES

MARGARET NOEL

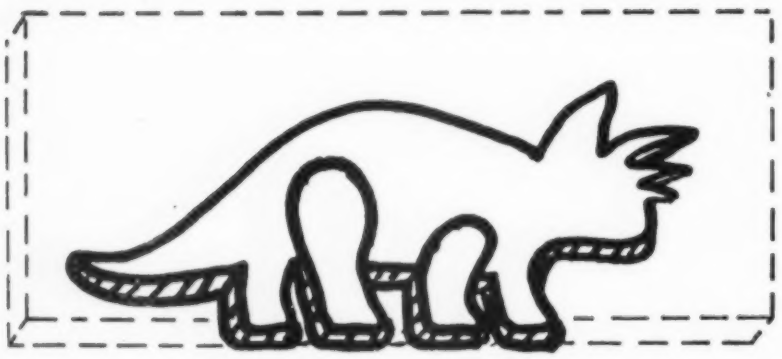
Instructor, Department of Education,
Fredonia Normal School, Fredonia, New York

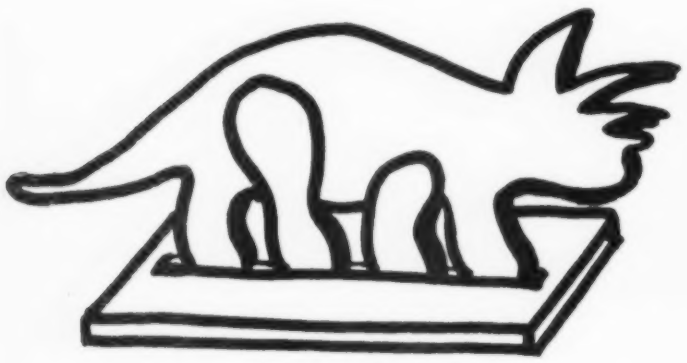
■ IN ELEMENTARY science the concepts of the vastness of time, space, and change must be presented concretely to be understood by children. Dinosaurs, leading back into an ancient, unknown world, provide a pathway of interest through millions of years of time, which youth travels eagerly. If the journey be successful, they return with a feeling of added knowledge and of their own place in nature's time chart.

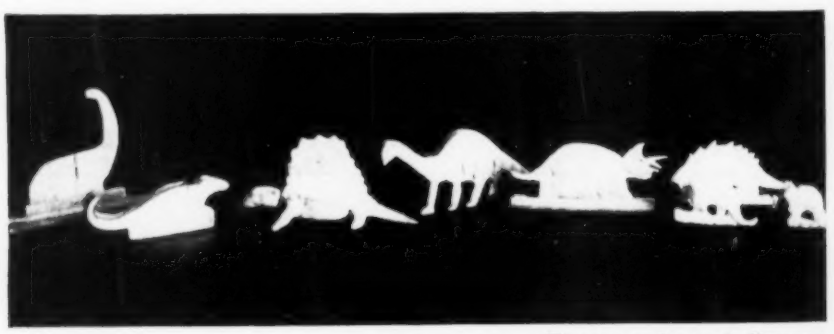
In the procedure one fifth grade followed, the pupils, in a discussion of newsreels, told about Dinosaur National Monument, in Utah. After a brief discussion of this park and museum, the subject was dropped until the western states were studied later in the year. The subject arose again with the interest that the partly familiar brings to children, so for leisure reading an easy story on dinosaurs, encyclopedia pictures, and a picture chart of prehistoric animals were placed on the library table.

With this orientation, the class asked such questions as: Were there any little dinosaurs? Why did they disappear? How long ago did they live? Did they live in all countries?

Some pupils were able to discuss and partially answer the questions of others. Here the teacher read "Triceratops," *(Continued on page 67)*

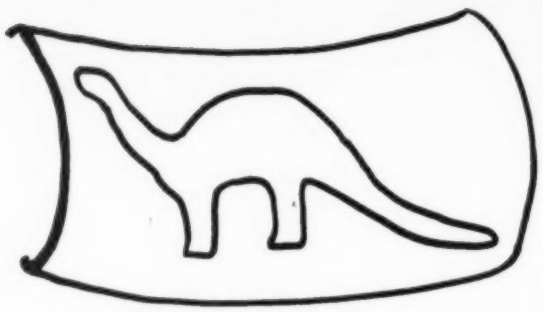


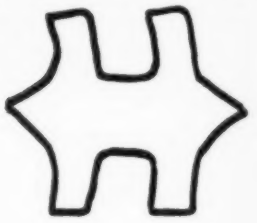




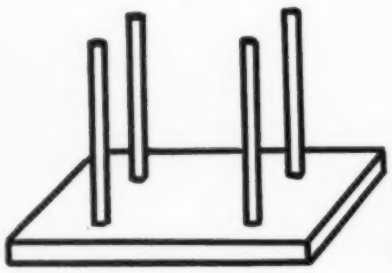
These carvings of dinosaurs were made of wood or soap.

A table of rubber dinosaur models, some pictures of dinosaurs, and a geologic chart were examples of handwork forming an exhibit resulting from the unit that the girls and boys liked to display.





How the children admired this huge Brontosaurus and the background of its natural haunts.



COOPERATE TO SAVE TIME

PROGRAM MATERIAL FOR ALL GRADES

The New Sled

WORDS AND MUSIC BY HILDRED TOPE

Heigh - ho! Heigh - ho! Look out be - low! On the new sled we come fly - ing. Heigh -
ho! Heigh - ho! O'er the snow For a new rec - ord we're try - ing.
Now we are near the foot of the hill, And the sled goes a wee bit slow - er
O - ver the bump and down past the mill. As the sled goes a wee bit slow - er
Slow - er and slow - er and slow - er, oh, then, Heigh - ho! a new rec - ord is set a - gain.

Candlemaking Day in the Colonies

FOR ALL GRADES

OLIVE DANIELS

Teacher, Jerusalem Township School, No. 9, Yates County, New York

CHARACTERS

ROBINSONS—
- REMEMBRANCE, 8 years old.
- MOTHER
- RICHARD, 11 years old.
- EDWARD, 10 years old.
- JONATHAN, 6 years old.
- PATIENCE, 6 years old.
- FATHER

JOHNSONS—
- CHARITY, 9 years old.
- ELLEN, 8 years old.
- JEREMIAH, 6 years old.
- THOMAS, 7 years old.

COSTUMES

Girls wear long skirts, paper caps, and collars. Boys wear paper collars and cuffs.

SETTING

Time: Scene I, early evening.
Scene II, the next morning.
Scene III, the next afternoon.
Place: New England, in colonial times.

PROPERTIES

Made by children: fireplace, settle, grandfather's clock, dipped candles, two hornbooks, wooden gun.

From neighborhood attics: spinning wheel, candle mold, old Bible, big iron kettle, old-fashioned coverlet, andirons, old-fashioned chair and stool.

THE children of my rural school wrote this play as a culmination of their study of colonial life and times. They gave it, with the mothers as guests. During our colonial unit we had had a very enjoyable experience making candles, so the play was written with candlemaking as the central theme.

SCENE I

REMEMBRANCE (*on the settle by the fireplace, knitting*)—It's getting dark in here. I guess I'll light the candle. (*Takes candle from mantel, and stoops to light it from the fire on the hearth.*)

MOTHER (*entering with knitting*)—My daughter! Don't you know that's our very last candle, child? You do not need candlelight for knitting. Sit closer to the fire.

REMEMBRANCE—I'm very sorry, Mother. I thought we had some left. Why can't we make candles tomorrow? It's about time to get them ready for winter.

(*Richard, Edward, Jonathan, and Patience enter as she is speaking.*)

TWINS (*shouting together*)—Oh, Mother! May we help make candles?

MOTHER (*covering her ears*)—Children! Children should be seen but not heard.

RICHARD—Have you enough tallow saved?

MOTHER—I have almost thirty pounds.

RICHARD—That ought to give us light enough so that Father can read Bible stories to us in the long winter evenings.

MOTHER—Well, if we are going to make candles tomorrow, I shall have to borrow a candle mold. Our neighbor, Mistress Barstow, is always very kind about lending her candle mold. Will you go to her house, Richard, and see whether she will let us borrow it? Run out to the barn first and see whether there are a few fresh eggs to take to her. (*Richard goes out.*) Remembrance, do you think you could measure and cut the candlewicks the right length? Edward, you may cut the sticks to tie the wicks to.

(*Edward and Remembrance go out. Mother settles down to knit. Jonathan and Patience take their hornbooks and sit down. Father enters, hangs gun over fireplace, sits in big chair by hearth, and, picking up the big Bible from the mantel, starts to read.*)

JONATHAN—Father, we are going to help make candles tomorrow.

PATIENCE—Yes, Father, Richard has gone to borrow the candle mold.

FATHER—Fine, but let me see how much you learned at the dame school today. (*The twins stand close to Father and read the letters of the alphabet and the first part of the Lord's Prayer from their hornbooks, haltingly, as he points. Remembrance and Edward return.*)

EDWARD—I have the sticks all ready for the candles, Mother.

REMEMBRANCE—And I have the wicks ready.

RICHARD (*returning from errand*)—Here is the candle mold, Mother, and Mistress Barstow has sent you some bayberry wax.

MOTHER—That is very kind of Mistress Barstow.

FATHER—Now you must all go to bed.

CHILDREN (*going off stage*)—Good night.

SCENE II

(*Mother and Remembrance are working around the fireplace.*)

MOTHER—This is a nice day for our candlemaking. (*Calls.*) Richard! (*Richard enters.*) Take this kettle of tallow out in the yard and put it over the fire to melt.

(*Richard goes out with the kettle.*)

REMEMBRANCE (*looking out of the window*)—Oh, Mother! Here come the Johnson children. I wonder what's wrong.

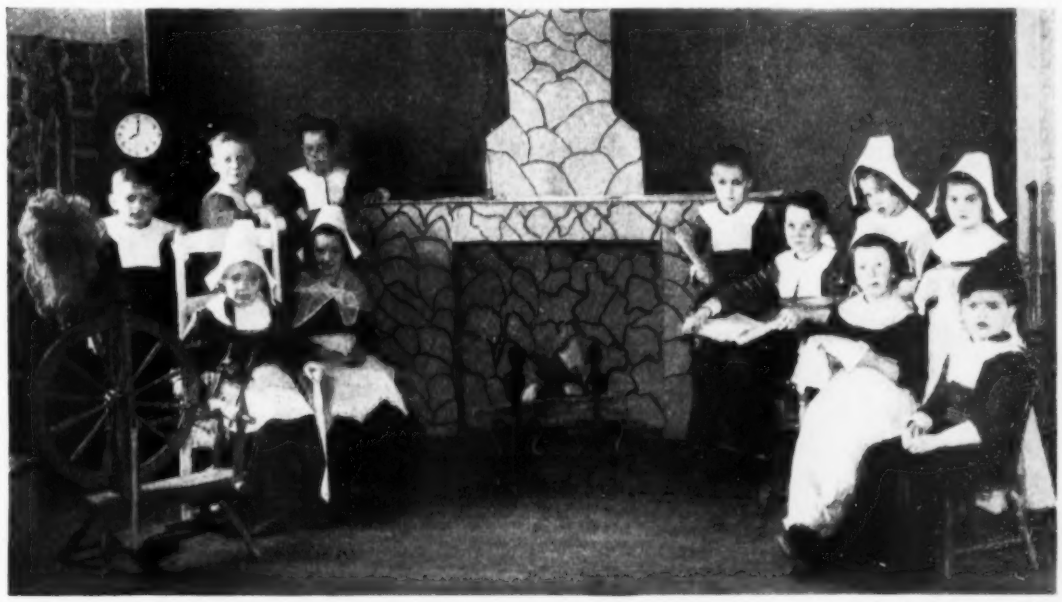
MOTHER—Yes, there they are. I hope nothing's the matter.

(*The Johnson children enter with Edward.*)

EDWARD—Mother, Mistress Johnson and her husband have gone to take care of a neighbor, and the children have come to spend the day.

MOTHER—We are very glad to have you, children.

CHARITY (*curtsies to Mistress Robinson*)—Mother asks whether you can take care of us today. A messenger came in the night and told us that Mistress Durham is very sick, and asked Mother to come. She and Father started off before daylight, with (*Continued on page 70*)



The fireplace was made from a mattress box, the settle from an orange crate, and the clock from corrugated paper boxes.

This dramatization will be interesting in connection with our Illustrated Unit on pages 45-54.

January Verse

A CAREFUL VISITOR

NORMAN C. SCHLICHTER

When Lady Snow steps on the earth
  She does not make a sound.
She takes care not to waken things
  Sleeping underground.

SNOW FUN

CATHERINE L. CLARKE

I'll put on my boots with the big red tops,
And leave in my playroom my train and blocks.
Across the white blanket as fast as I can,
I'll race and I'll run to make a snow man!

SAVING PAYS

CLARENCE M. LINDSAY

(*Exercise to be given as an acrostic.*)

T hrift Week comes in January!
H ow to save,—that is a very
R are, but useful, thing to know!
I f we let our pennies go
F oolishly, on trifles spent,
T hen we never have a cent

W hen we need it most! Dear me!
E ach of us should surely see,
E v'ry time, that saving pays!
K eep *some* coins for "rainy days"!

A WINTER GARDEN

WINIFRED CATHERINE MARSHALL

I have a winter garden
Here on the window sill,
Where lovely flowers blossom,
Though days are dark and chill.

Each day I bring them water
And tend them with great care;
But it is worth the trouble
To have a garden there.

When fleecy, white snow blankets
Have covered other flowers,
I'll have my indoor garden
To cheer the winter hours.

THE NEW YEAR

ALICE CROWELL HOFFMAN

The New Year is a sheet
  Of paper clean and white,
On which we're free to choose
  Just what we wish to write.

The New Year is a harp
  Which we pluck, string by string,
And if we play in harmony,
  What melodies 'twill sing!

The New Year is a test
  To take as days go by.
Oh, may we do our best
  And may our grades be high!

THE WIND

HERBERT ELLIOTT

The wind came roaring into town.
He hurled great boughs into the street
And thumped upon my windowpane
And kicked my door with angry feet.

He whistled through his teeth and howled:
"Come out and fight! Come out and fight!"
Then jumped upon a dooryard pine
And wrestled with it all the night.

BUNNY TRACKS

ANN ROE ANDERSON

Bunny tracks across the snow,
Crisscross, circles, there they go!
Up the hill in loping hop,
Bunny paused when near the top
To sniff and snuff the frosty air,
For his mother said, "Take care!
Gleaming eyes are keen at night,
When the Moon Man's face is round and bright."

Bunny started home pell-mell,
When he heard old Screech Owl yell,
Down the hill in flying jumps,
Never minding humps and bumps,
Leaping, skipping, through the glen,
Under bushes, out again.
Crisscross, circles, there they go!
Bunny tracks across the snow.

ESKIMO CHILDREN

JESSIE B. McCURRACH

(*An exercise for six children. Setting shows northern lights made of crepe paper or cheesecloth at the rear, and a large cardboard polar bear at the right. Children in Eskimo costume—of white outing flannel—play with sleds. Each child in turn comes to center stage, speaks, and returns to place. An Eskimo song sung by a group of children off stage may conclude the program.*)

FIRST CHILD—
I live in the Northland cold, you know,
Where floating icebergs come and go;
Where not many trees and flowers can grow;
Where the sun does not rise and climb overhead,
But moves along the horizon instead;
Where the northern lights shoot up so high,
Red, violet, yellow, and dance in the sky.

SECOND CHILD—
My mother makes all my clothes for me,
And she is as busy as busy can be.
She has a bone needle and—isn't it queer?—
Her thread is the sinew of a reindeer.
To cover my head I've a sealskin hood,
And I wear sealskin boots that feel very good.
Then out I go over ice and snow,
A warm and happy Eskimo.

THIRD CHILD—
For food, the seals and fish I eat,
And blubber, which is quite a treat.
Then I have soup—I like that, too.
Does *your* mother make soup for you?
The berries I find taste good to me;
And the seaweed I gather from the sea
I like to eat for luncheon too,
Although it may seem strange to you.

FOURTH CHILD—
Do you know how I go when I travel far?
I take no bus, no train, no car,
But dog teams carry me over the snow
In sleds that oh, so swiftly go.
I have many dogs to draw me then—
Sometimes eight and sometimes ten.
You wouldn't believe how fast they go,
As they skim along over ice and snow.

FIFTH CHILD—
Some animals, not in a zoo,
But here at home I'll name for you:
The polar bear with shaggy feet,
The seal with fur so brown and neat,
The musk ox and the caribou,
The wolf, the fox, the walrus, too,
The giant whales that swim about,
And send on high the water they spout.

SIXTH CHILD—
I play many games just as you do.
I have a bow and arrows too.
A sled I make for myself of ice.
To coast on it is very nice.
Then like a big snowball all rolled up,
My head between my knees I tuck,
And bumpty bump down the hill I go,
A jolly little Eskimo.

FOR MIDDLE AND UPPER GRADES

MABEL S. HARMER

January Goes First

Characters

FATHER TIME	COLONIAL SOLDIER
NEW YEAR	ROBERT BURNS
JANUARY	LEWIS CARROLL
FEBRUARY	ALICE IN WONDERLAND
AUGUST	RED QUEEN
NOVEMBER	WHITE QUEEN
PAGE	BENJAMIN FRANKLIN
PAUL REVERE	JAMES

Setting

The scene is the hall of Father Time. At one side is the throne. At the rear of the stage is a large frame which can be entered from behind a curtain. It can be illuminated at the proper time.

(*Father Time sits upon his throne with February, August, and November grouped around him. New Year enters with a suitcase.*)

FATHER TIME—Ah, New Year, I see that you are all packed and ready to go. I hope that you will take a great deal of prosperity and happiness with you.

NEW YEAR—Thank you, Father Time. I shall do my very best. I can hardly wait until midnight strikes and it will be time for me to leave. Do you think that the Old Year will be willing to quit?

FATHER TIME—Certainly. His time is up and he has done his best. He will be glad to let you take his place and see whether you can do as well

NEW YEAR—Oh, I shall probably do much better than he has.

FATHER TIME—Don't be too sure about that. New Years are always so cocky. I shall be happy if you do as well. But where is January? He should be all ready to go with you.

NEW YEAR—I suppose he is packing. Oh, here he comes now. (*January comes in dragging a huge wastepaper basket full of papers.*) What are you doing with that basket of wastepaper, January? Don't you know that it is almost time for us to be off?

JANUARY—I've decided not to go at all.

FATHER TIME—Not go at all?

NEW YEAR—What are you thinking of?

JANUARY—That's what I said. I've decided not to go at all.

FATHER TIME—But what's the matter?

JANUARY—I'm heartsick and discouraged, that's what's the matter. Just look at all this.

NEW YEAR—Well, what is it?

JANUARY—This basket is full of broken resolutions and there are nineteen more baskets out there full of the same thing. I'm a complete failure. I don't accomplish a thing. I start out very well with everybody making great resolutions and before the year is over, the biggest part of them come back broken. You had better send someone else in my place. Why not let February go? He thinks that he's so smart, anyway, because of Washington's birthday and Lincoln's birthday both belonging to him, not to mention St. Valentine's Day!

FEBRUARY—Why, I couldn't think of going yet. I'm not nearly ready, and besides you have two extra days and I wouldn't know what to do with them.

JANUARY—Well, then, why not August? He's used to filling thirty-one days.

AUGUST—And how could people go to the circus in midwinter weather? That doesn't make sense at all. I have to be there at the height of summer so that they can sit in the open air and drink ice-cold lemonade.

JANUARY—November might go down. She doesn't need hot weather.

NOVEMBER—But I've just come back. I have to wait until people have had time to plant and gather in another harvest so that they can properly celebrate Thanksgiving Day again.

JANUARY—Send word down for December to stay on another month.

FATHER TIME—Nonsense. That wouldn't do at all. December is almost ready to come back now. Besides, I'm afraid that you haven't given this thing the proper amount of thought, January. Suppose a great many resolutions have been broken? That doesn't mean that you are a complete failure. There have probably been many more that were made and kept. As for famous birthdays, you needn't think that February has them all. I can tell you about some famous folks who were born in January.

JANUARY—Can you really? This interests me.

FATHER TIME—Listen, and you shall hear.

(*A Page enters and stands at one side of the frame, which is then illuminated. Paul Revere and the Colonial Soldier step into view behind the frame.*)

PAGE—Paul Revere—silversmith, engraver, and soldier of the Revolution.

COLONIAL SOLDIER—Paul Revere, it is well that you have come. You have a great task to perform tonight.

PAUL REVERE—I am ready, sir.

COLONIAL SOLDIER—We have word that the British are marching tonight against Lexington and Concord. You must warn all the people in those towns, as well as the farmers who live in the countryside along the way. I shall be in the tower on yonder shore. If the British march by land, one lantern will give the signal. If you see two lanterns, you will know that they go by way of the sea. Ride fast, for much depends upon your work this night.

PAUL REVERE—You can count upon me, sir. Every man along the way shall hear and be prepared.

(*The Colonial Soldier and Paul Revere exit and Robert Burns takes their place.*)

PAGE—Robert Burns.

ROBERT BURNS—I am a poet of Scotland, born in 1759. I was poor all of my days and for that reason I usually wrote of poor and lowly things. I shall recite for you a verse of one of my best-known poems. (*Recites verse of poem.*)

(*Robert Burns exits and Lewis Carroll takes his place.*)

PAGE—Lewis Carroll.

LEWIS CARROLL—I was really a staid mathematician, you know, and had never intended to be a writer of children's stories, but one afternoon in July I took three little friends for a trip up the river and began telling them about Alice and her adventures. The little girls liked the adventures so much that later I made up more of them and finally put them into a book. I shall introduce you to Alice, the Red Queen, and the (*Continued on page 69*)

Shanghai Street Scene

WRITTEN AND ARRANGED FOR RHYTHM BAND BY J. LILIAN VANDEVERE

T.B.
TRI.
W.B.
TAM.
CYM.
DRUM
1.
2.
Chi - nese girls go trot - ting down the street, With pa - per fans and par - a - sols gay, Can - dy men,
Mak - ing bows to ev - 'ry friend they meet— Shy Su - ey Ping and lit - tle Ah Fay. Pa - per kites,
rick - shaws hur - ry - ing, Brown chow dogs, and sell - ers of toys,
chil - dren scur - ry - ing— Chi - nese streets have bus - tle and noise.
ff
8va

T.B., tuned bells; TRI., triangle; W.B., wood block; TAM., tambourine; CYM., cymbals. Rhythm sticks may play wood-block part. R indicates rap of tambourine; S indicates shake. Chinese music sounds strange to us. It is made from a scale which has only five tones. You can find these on the black keys of the piano.

ILLUSTRATED UNIT OF WORK

Light and How It Helps Us

Shadows occur when the path of light is obstructed by some object. They add interest and variety to our scenery, and mark by their length and position the passing of the hours.

H. Armstrong Roberts

GLENN O. BLOUGH

Instructor in Science,
Laboratory Schools,
University of Chicago

■ WITHOUT light, life on the earth would cease to exist. The light from the sun not only provides a world in which man can see to do his work, but it is directly or indirectly responsible for his food, clothing, shelter, and other necessities. People have spent years of experimentation and great sums of money seeking the best means of providing light at the times when the sun does not supply it.

The behavior of light is one of the most interesting of natural phenomena. Who has not wondered at brilliant colors, at reflections in a quiet lake, at the power of telescopes to gather light, and at the miracles of color photography? Even an elementary study of light offers many experiences that help pupils to understand better their everyday environment.

OVERVIEW AND SUGGESTED PROCEDURES FOR TEACHING THIS UNIT

■ A SCIENCE program based on the needs, interests, and abilities of the elementary pupil includes science concepts from both the physical and natural environment, that is, material about heat, light, sound, electricity, astronomy, and other aspects of the physical environment, as well as material about plant and animal life. Consequently, a unit dealing with the simpler concepts of light should find a place in the science curriculum of every school. Since there is great diversity among pupils in background, ability, and interest, this unit will serve best as a source unit from which teachers can prepare lessons to suit their class needs.

The unit is organized so that upper-grade pupils need also to study the material given for the middle and primary grades, and the middle-grade pupils likewise need the primary-grade material as a background. In each case the lessons given here serve to illustrate a procedure to follow in carrying out others listed as problems for supplementary lessons. Teachers in certain situations will add other lessons to these. Space does not permit a more extensive treatment of the unit.

The knowledge gained in the study of the unit should consist primarily of understanding the important meanings given on this page for the various levels. Examinations, if any are used, should test for an understanding of these meanings. The tests should not require the pupils merely to reproduce a series of unrelated facts.

It is of utmost importance that the pupils of each level attain a habit of observing in their environment applications of the science principles learned in the classroom. Such observation may have its inception under the teacher's direction in the school environment. For example, the motion-picture machine and the slide projector are the result of scientific study of light. The lighting of homes, streets, stores, and public buildings illustrates the application of principles learned in the unit.

Wherever children see, they use light. Whenever their understanding is enriched they become, in a measure at least, better adapted to live in and appreciate their changing environment.

Objectives

1. To create an interest in the common phenomena of light.
2. To impart knowledge about the various methods of lighting.
3. To promote growth in scientific attitudes.
4. To promote ability to solve problems in a scientific manner.

For Primary Grades

It is suggested that on this level the pupils observe various other light phenomena and report them rather than devote additional time to formal class lessons.

A. *Suggested additional activities*—

1. Try to find pictures of different kinds of lamps that are used to give light.
2. Make a list of different ways in which your town or community gets light.
3. Try to find out where moonlight comes from.

B. *Important meanings to be developed*—

1. The sun lights the earth.
2. Day and night are caused by the turning of the earth.
3. There have been many changes and improvements in our methods of making artificial light.
4. Living things on the earth depend on the sun.

For Middle Grades

A. *Problems for supplementary lessons*—

1. What are some of the uses of mirrors?
2. How do opaque objects form shadows?
3. How is refraction important in our everyday life?
4. What happens when the colors of the spectrum are put together?
5. What is the difference between a luminous and a non-luminous object?

B. *Important meanings to be developed*—

1. Light travels in straight lines at a speed of about 186,300 miles in a second.
2. Objects may be transparent, translucent, or opaque.
3. When light strikes an object some of it may pass through the material, some may be absorbed, and some reflected.
4. When light travels at a slant from one material to another it is refracted.

For Upper Grades

A. *Problems for supplementary lessons*—

1. How does the eye see?
2. How is the eye like a camera?
3. How do lenses help us to see better?
4. How should we care for the eyes?
5. How has street lighting improved?

B. *Important meanings to be developed*—

1. Lenses are important to man's progress in gaining knowledge.
2. Electric lighting has improved greatly because of scientific experimenting.
3. Correct lighting is very important.
4. The color of an object is due to the light which is reflected from it.

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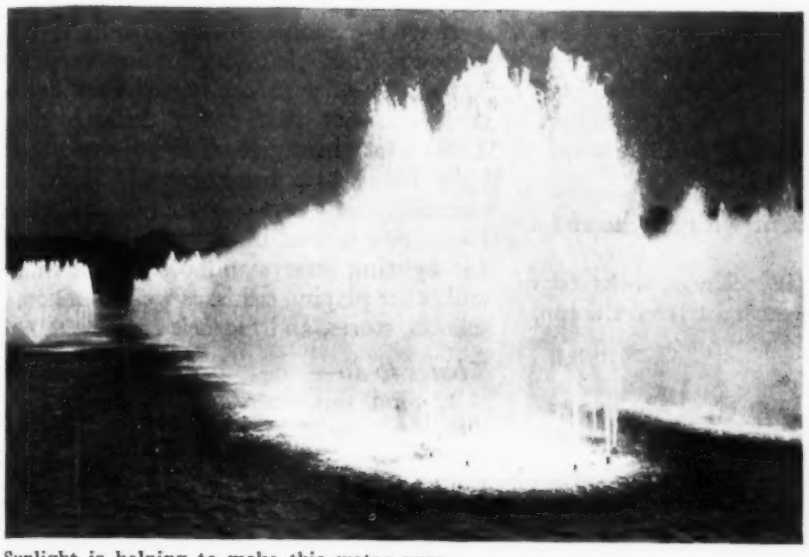
The Importance OF SUNLIGHT



Sunlight is helping to make this water pure so that it will be safe to drink. *Ewing Galloway*

Contained in sunlight are health-giving properties that help to make sun bathers strong and well. *Harold M. Lambert*

Cows and all other animals could not live without the sun, which helps their food to grow. *H. Armstrong Roberts*

Name all the products pictured here that were dependent upon sunlight at one time or another. *H. Armstrong Roberts*

Photo by Hugh Spencer

Sunlight is so precious to plants that their leaves are arranged to obtain the most light possible.

Once these plants looked alike. Can you tell which two were later put in a dark place?

Ewing Galloway

Coal is the remains of plants that grew in the bright sunshine of centuries ago.

WHERE DO WE GET LIGHT?

For Primary Grades

HOW DOES THE EARTH GET LIGHT?

1. What causes day and night?
2. Does the sun really move across the sky?

"It's time to get up," Jim's mother called. "It's the day of our big trip."

Jim hurried, as did the other members of his family, and soon they were all driving through the countryside.

It was very early in the morning, so early, in fact, that Jim's father had to use the car lights. "I wish the sun would come up. I'd like to see the fields," said Jim's sister.

Jim's father replied, "This will give you a chance to watch the sunrise!"

As they drove along, a faint glow began to come into the east. Slowly the earth became lighter. Jim and his family were soon able to see the farm crops along the way plainly enough to tell what they were. It continued to grow lighter. Now they could read the signs along the road. They turned the car lights off because the earth's big lantern lighted their way. A piece of a large round red sun began to appear above the horizon.

When they were watching the sunrise Jim's father said, "Do you know that the sun does not really rise? This earth we are traveling on is turning around and the sun only *seems* to be changing its position in the sky."

Do you think Jim's father was joking or do you think he was right? If you would like to perform an experiment to illustrate what he said, this is what you can do.

Use a basketball or some other round object to represent the earth. Use a flashlight or some other bright light to represent the sun. Darken the room and you are ready to experiment.

Hold the flashlight so that it shines on the ball. Notice how much of the ball is lighted. Make an "X" on the light side with white chalk. Now turn the ball slowly on a point. Watch the mark. Turn the ball slowly until the mark is again facing the light. Did the marked side of the ball receive light all of the time? Did the light move? How did the ball move?

Let us see what this experiment shows. The ball, acting as the earth, turned around on a point. The side facing the flashlight (the sun) received light only when it was turned toward the flashlight. The other side was in darkness. As the earth turned around, the dark side became lighted and the light side grew dark. The flashlight did not move. It gave light to the ball all of the time, but only the part of the ball which was turned toward it was lighted. If you understand this experiment you can see what Jim's father meant. The sun does not actually move in the sky. The earth turns and this makes the sun seem to move.

The sun is a great ball of very hot gases. It sends forth a great deal of light. Some of this light comes to the earth and gives us our light. Without this light we could not live on the earth. Can you find out why?

Things to do—

1. Try to experiment with a light and a ball at home.
2. Find pictures in science books that show how the earth gets light from the sun.

◆

HOW CAN WE MAKE LIGHT?

1. How did ancient people make light?
2. Why is an electric lamp better than other kinds of lamps?

During the day the sun gives us plenty of light. But as the earth turns, darkness comes and then we must have some other way to get light. How many different ways can you think of to obtain light?

As long as there have been people on the earth they have needed light at night. When darkness came, no one could work unless there was some way to make light. People could not leave their homes at night for fear of wild beasts and other dangers.

The first lights were from fires that men built. They carried burning sticks from these fires as torches to light the way.

After a long time, these ancient people began to burn the fat of animals in saucer-shaped stones. This gave them light, but the fat soon burned up and had to be replaced. How do you think people improved their ways of getting light?

They still used the oil of animals and plants, but they learned to put a wick in the oil. Find a picture on one of the picture pages of an ancient lamp with a place for the wick.

Then they learned how to make candles from the tallow of animals. They used cotton string for the candle wick.

When people found that oil from the ground could be burned to give light, it was a very important discovery. They learned how to make kerosene from petroleum, and this kerosene could be burned in lamps. Many families still use kerosene lamps.

Gas has also been used to burn and give light. At first the gas from the ground was used. Such gas is called natural gas. A gas made from coal has been used to give light, too. There are many kinds of lamps that burn gas and they have been improved in many ways. Perhaps you have seen gas-burning lamps that use mantles. They give an especially good light.

At last, men discovered that light could be obtained from electricity. The story of the inventing of the electric lamp is a very interesting one. It took a long time to make the lamp as perfect as it is now. Thomas Edison worked for many years, and other scientists have made improvements, until we have the electric-light bulb that we use today.

If you examine an electric-light bulb you will find that it contains very fine wires. These wires are heated very hot by the electricity that passes through them. This makes them give off light. An electric light furnishes a bright, steady light, and electricity is very convenient and clean. Electricity is used in advertising signs, and for lighting streets and baseball diamonds and other playing fields, as well as in homes, schools, stores, and factories.

Things to do—

1. Find out more about how candles were first made.
2. Read *Light Then and Now.* (See Bibliography.)

◆

WHY IS LIGHT SO IMPORTANT TO US?

1. How does light help us?
2. Why do animals and plants need light?

Light helps us to see our way from place to place and thus to avoid many dangers. We need light so that we can read, write, and do various kinds of work. Light is used to send signals of different kinds, and has many other valuable uses.

The light from the sun is so important to you that you could not live without it. Try this experiment and you will understand one of the ways in which light is most important. Find two plants as nearly alike as possible. Set one plant in a window where there is plenty of sunlight. Put the other in a dark closet. Water the plants equally. Leave the plants for a week and then place them together and compare them. What has happened?

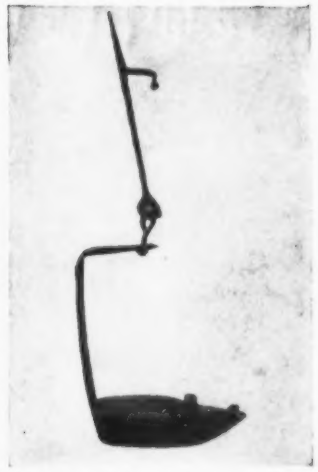
Your experiment will show you that plants need sunlight so that they can grow and keep healthy. Suppose the vegetables, the field crops, the fruit trees, and the forest trees all died from lack of sunlight. Do you know what would happen? Everything else would die too. There would be no food for cattle and other farm animals, so they would soon die. There could be no living things on the earth if there was no sunlight.

Things to do—

1. Examine a plant and notice how the leaves are arranged. How does this arrangement help each leaf to get enough sunlight?
2. Make a list of things you cannot do without the aid of light.

The burning of various oils in saucer lamps was a very early attempt to dispel the darkness.

In colonial days, the women made candles by dipping wicks in tallow.

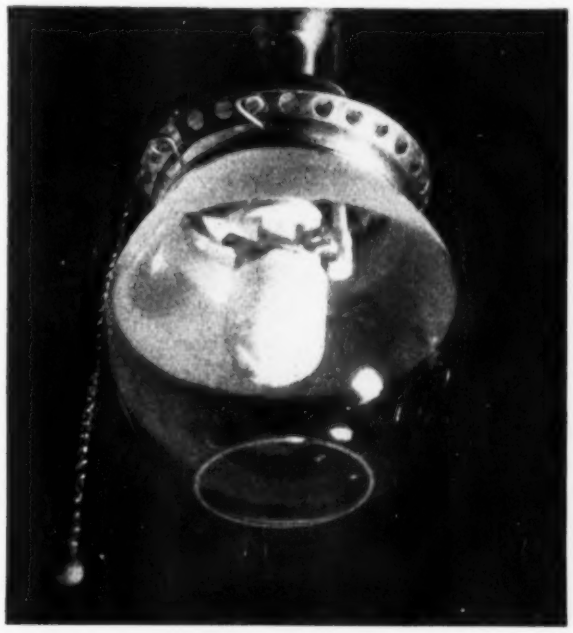


A metal Betty lamp could be hung from a wall by its hook.

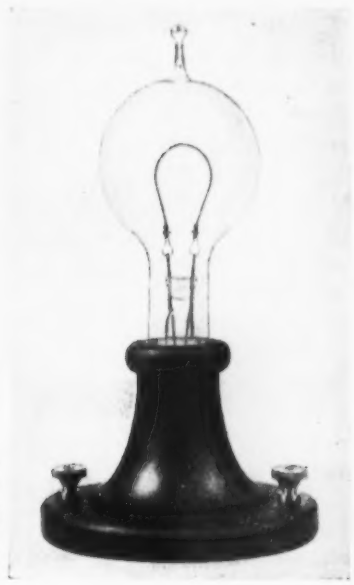
THE STORY OF *Home Lighting*

Two wicks made whale-oil lamps give a brighter light.

Gas became more effective for lighting when the gas mantle was introduced. *Ewing Galloway*



Kerosene lamps were the first to have glass chimneys, which greatly improved the light.



The first incandescent bulb was invented in 1879. It revolutionized artificial lighting.

Scientifically planned lighting is a safeguard for one's eyes.

Direct lighting fixtures illuminate this kitchen, above. At the right we see a semi-indirect fixture. Some light passes through the translucent part of the bowl; the remaining light is reflected.

HOW DOES LIGHT TRAVEL?

For Middle Grades

HOW DOES LIGHT COME FROM THE SUN?

1. How fast does light travel?
2. How does light behave when it strikes an object?

If you have read the lessons for the primary grades, you have learned that the light on the earth comes from the sun, except the light which we make artificially. There are several interesting things to know about how light gets here from the sun.

If you are reading this page in the light of day, you are using light that was on the sun a little more than eight minutes ago. The sun is 93,000,000 miles away and the light traveled from there in about eight minutes. It traveled at the rate of about 186,300 miles in *one* second! Sunlight, candlelight, and lamplight all travel at the same speed.

Did you ever watch light shining through a small opening in a door or window? If there was dust in the air, you may have noticed that the light came into the room in straight lines. Light travels in straight lines wherever it goes as long as it does not travel from one material into another. That is, if it is traveling through the air of your schoolroom it travels in a straight line. If it leaves the air and goes through some other material such as water or glass, then the light is bent from its straight course. When it leaves these materials and again travels into the air, it is bent once more.

You have read that light travels in straight lines at great speed to us from the sun. It can travel through many kinds of materials. We say that such materials are *transparent*. Air, water, and window glass are examples of transparent materials. There are many materials through which light cannot travel. Such materials are called *opaque*. Books and walls are examples of opaque materials. You can easily name others.

When light strikes opaque material it may act in several different ways. It may bounce off, or, as we say, it is *reflected*. Smooth surfaces like a mirror or a piece of polished metal reflect light so well that they show a picture of the objects in front of them. We call this picture an *image*.

Rough surfaces reflect light, too, but they reflect it in many different directions. When light is reflected in different directions it does not make a picture or image, so of course rough surfaces cannot be used as mirrors.

Things to do—

1. Find out what happens when light is absorbed by a material.
2. Find out what kinds of objects are *translucent*. Of what use are they?

WHAT HAPPENS TO LIGHT WHEN IT TRAVELS FROM ONE MATERIAL INTO ANOTHER?

1. Why does an oar look broken if it is partly under water?
2. What causes a rainbow?

You have learned that light travels in straight lines as long as it is traveling through only one transparent material. Do you know what happens when it travels from one material to another? Try the following experiment and you will see.

Fill a drinking glass half full of water. Now place a pencil in the glass and lean it against the side of the glass so that it is slanting. Why does the pencil look as if it were broken?

When you look at a pencil in your hand you see it because the light strikes it and travels through the air to your eyes. When you look at the pencil in the glass of water, light strikes it and travels from the pencil through the water and then into the air and to your eyes. It travels from one transparent material to another and *the light is therefore bent*. The pencil appears to be broken.

You have probably noticed that the oars of a rowboat seem to be bent when they are left half in and half out of the water. They appear bent for the same reason that the pencil did. If you wish to read more about why these materials appear bent, look for the word *refraction* in a general science book. To refract means to bend, and the term refraction is used to describe what happens when the rays of light are bent.

When light is refracted it sometimes gives very beautiful effects. Perhaps you have had the experience of looking through a glass prism and seeing the beautiful colors. You will be surprised to know that sunlight is really made up of many colors. These colors are all blended together and unless they are broken apart, we do not see them.

Look at the drawing of a prism on one of the picture pages and you will see what happens when sunlight passes through a prism. Notice that the different colors are not all bent or refracted equally. This unequal bending causes the colors to separate and we see red, orange, yellow, green, blue, indigo, and violet.

You probably recognize these colors as the colors of the rainbow. The rainbow is made when sunlight passes through tiny raindrops in the air. The raindrops bend the light in much the same way as the prism does. Sunlight passing through the fine spray of a lawn sprinkler sometimes is broken up into rainbow colors. If you have an aquarium in your schoolroom, you may sometimes notice the rainbow colors formed when the sunlight is refracted as it shines through the aquarium.

Things to do—

1. Copy the drawing of the prism and write a few sentences telling why colors are formed when light travels through the prism.
2. Find different examples of refraction of light at home and at school.

•

WHAT HAPPENS TO LIGHT WHEN IT STRIKES AN OBJECT?

1. How do objects reflect light?
2. What causes shiny objects to become dull?
3. When is it possible for another person to see your reflection in a mirror when you cannot see it yourself?

You have learned that when light strikes an object some of it may be reflected from the object and some may travel through the object. Also, some of it may be absorbed as it strikes the object.

When light is reflected by smooth objects such as a mirror, shiny metal, or smooth surfaces of water, it is reflected in such a way as to make an image. The image seems to be behind the mirror or reflecting surface.

If you put dust from an eraser over the surface of a mirror, you will see that there is no longer a clear image. The dust particles make the mirror surface rough. The surface still reflects the light, but it is reflected in many directions.

When light strikes an object like a smooth mirror at an angle, it is reflected at the same angle at which it strikes. Look closely at the diagram on one of the picture pages, showing a mirror reflecting light, and you will see that this is true.

Place a mirror in the sunlight and reflect the light to the ceiling of your schoolroom. Keep changing the angle at which you hold the mirror and watch the reflection of the light on the ceiling and walls. You will see that the mirror never fails to reflect the light at the same angle as it receives it.

Dust particles on the surface of a mirror make thousands of surfaces, each reflecting light at a different angle. Examine the drawing on one of the picture pages that shows how light is reflected from dust particles. When this happens, no image can be reflected. The light is scattered in all directions. This will help you to understand why shiny shoes look dull after you have walked on a dusty path and why powder on a shiny nose makes it appear dull.

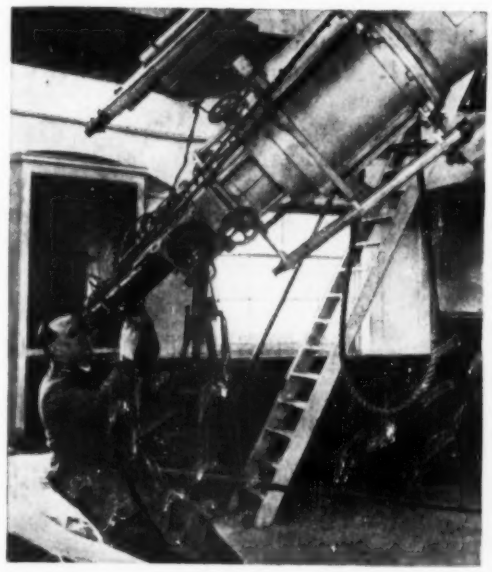
Things to do—

1. Examine good reflectors and poor reflectors with a reading glass and see how they are different.
2. List different uses for mirrors.
3. Experiment with a mirror to find out more about the appearance of the image.

Some Instruments

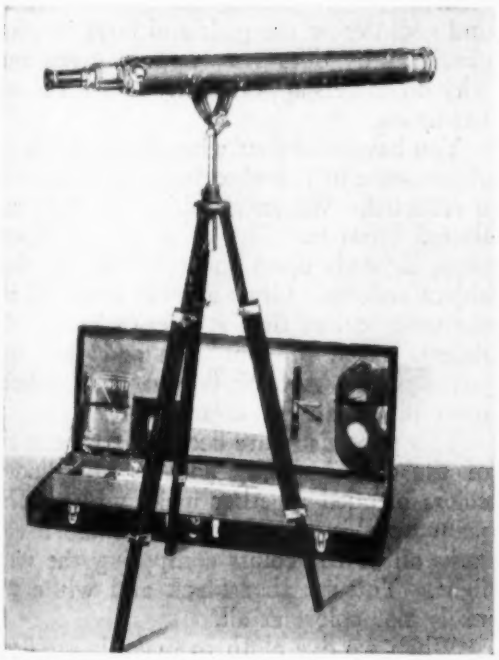
THAT USE LIGHT

The world of science is greatly indebted to the compound microscope; it powerfully magnifies minute objects for examination and study. Why is it called compound?



Huge telescopes like this reveal the wonders of the universe to astronomers. Can you name two types used? *Philip D. Gendreau*

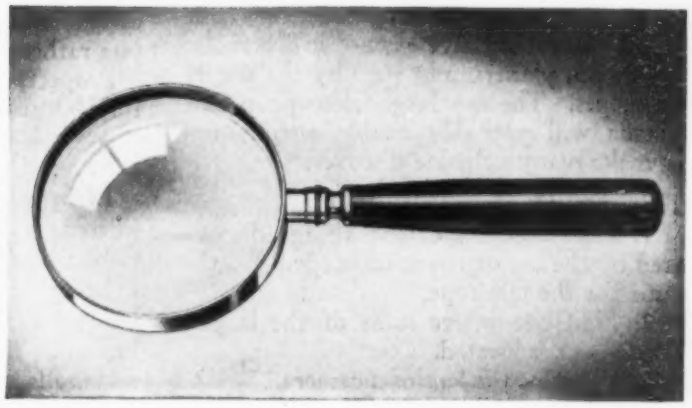
Simple microscopes contain one or more lenses through which objects are viewed directly. They magnify less than compound microscopes.



Much pleasure and valuable information will be obtained by the child who studies the stars and the planets with a small telescope like this one.

Both cameras and field glasses have scientifically ground lenses, which depend for their action upon the presence of light rays.

Eyeglasses are designed to correct specific defects of vision. The magnifying glass makes objects appear to be larger than their real size.



HOW DO WE USE LIGHT?

For Upper Grades

HOW DO WE USE LIGHT IN INSTRUMENTS?

1. Of what use are lenses?
2. What are some of the instruments which make use of lenses?

You have learned that when light passes through glass at a slant it is bent, or refracted. Scientists make use of this fact in a great many ways. Very likely you have heard of lenses. Probably some of the girls and boys in your room wear glasses. There are many different kinds of lenses besides those used in eyeglasses, and there are many uses for lenses.

Lenses are used in microscopes, telescopes, cameras, opera glasses, field glasses, and other instruments.

The thicker a lens is, the more it bends the light. Have you ever used a reading glass or magnifying glass to burn a hole in a piece of paper? If you have, you know that you can arrange the glass so that it will bend the light together at one spot on the paper and that this spot will be very bright and very hot. Such a glass is one of the kinds of lenses and shows you something about how lenses work.

The reading glass is a very simple kind of magnifier. It bends the light so that the objects seen through it are enlarged. A compound microscope like the one pictured elsewhere in this unit has thick lenses to magnify things. Microscopes like this are used to study bacteria and many other objects that the eye cannot see unaided. Scientists have made, and will continue to make, very important discoveries with the aid of microscopes.

Telescopes use lenses, too. Some kinds of telescopes use two lenses to bend the light. Such telescopes are called *refracting telescopes.* Other types of telescopes use a lens and a concave mirror. They are called *reflecting telescopes.* The new 200-inch telescope on Mt. Palomar near San Diego, California, is a reflecting telescope. The largest refracting telescope in the world is located at Yerkes Observatory, Williams Bay, Wisconsin.

Telescopes help scientists to make discoveries that would be impossible without them. Scientists have learned much about the moon, planets, and stars by the use of telescopes. The new large telescope in California will probably enable astronomers to make many valuable discoveries.

Things to do—

1. List some important things discovered by the use of the microscope. Do the same for the telescope.
2. Find out where some of the largest telescopes are located.
3. Examine the lens of a camera.

HOW HAS HOME LIGHTING BEEN IMPROVED?

1. What are some of the different methods of lighting a room?
2. Why is it important to have good light?

If you have studied the subject matter for the primary grades, you have learned that the methods of obtaining artificial light have greatly improved. It is hard to imagine how difficult it would be to study or sew or do other such work if we had to use candles. In places where an electric current is not available, gas lamps are often used. Gas lamps are much more satisfactory than kerosene lamps.

Electric lighting has been greatly improved during recent years. Scientists have experimented to make lamps that will give just the right amount of light for various situations. They have worked to obtain a light of the most satisfactory color, and have studied how to place light fixtures in a room to the best advantage.

On one of the picture pages is shown a *direct lighting* fixture. You will observe that the light is thrown directly to the place where it is to be used. Such a fixture is economical and satisfactory for kitchens and halls, provided the shade diffuses the light sufficiently.

In *indirect lighting,* the light is reflected to the ceiling by an opaque shade placed below the light bulb. The ceiling should be white or a very light color, so that it will serve as a satisfactory reflector. A soft light is the result. There are many ways of using indirect lighting.

Semi-indirect lighting is also widely used. This type of lighting is shown on one of the picture pages. You will notice that part of the shade is translucent, thus permitting light to pass through it, while the rest of the light is reflected to the ceiling and then downward.

With direct lighting, very little of the light is lost. In both of the other methods some light is lost but the light is much more satisfactory because it is soft and even. Compare these lights with those used in early times. Which kind of light would you rather use? Why?

Properly used, electric light is the best for children when studying or playing because it is safe, convenient, and easiest on the eyes.

Perhaps you have noticed the lighting in some modern theater, church, or other public building. There are many ways of lighting these large places. Often the lights are placed so that the bulbs cannot be seen. The light shines upon the ceilings and walls, and is reflected from them.

The ceilings and walls of the rooms in homes and in public buildings play a very important part in bringing about good lighting. Light-colored walls and ceilings make the best reflectors.

Lamps without shades should never be used in houses or elsewhere. Can you tell why? They give a light that is too bright for the eyes and may cause eyestrain if used for any length of time.

Things to do—

1. Find out how the windows in your schoolroom have been placed to give the proper amount of light as well as to provide light from the proper direction.
2. Find out what types of light you have at home. How do you use reflectors?

◆

WHAT GIVES OBJECTS THEIR COLOR?

1. What causes objects to be black or white?
2. How do dyes cause materials to be colored?

Sunlight, you remember, is composed of different colors. A prism can break up sunlight into its colors so that they can be seen. But what gives the color to the dresses and neckties of the girls and boys in your class? Why does grass appear green and why do flowers appear many bright colors? Let us see.

You have read that when light strikes an object some of it is absorbed and some of it is reflected. We see an object by light reflected from it. The color of an object, then, depends upon the color which that object reflects. Grass absorbs more of all the other colors than it does of green. It reflects green to your eyes and thus appears green. A book is blue if it reflects more blue than any other color.

This paper is white because it reflects all of the colors equally and, as you know, colors blended together make white. The print on this page is black because it absorbs all of the colors composing the sunlight. You see that black and white are really not colors at all.

When we dye cloth to make it a different color we add a substance to the cloth that reflects the color we wish the cloth to be. If we want a piece of cloth to appear red, for instance, we put the kind of dye into the cloth that reflects more red than any other color.

Things to do—

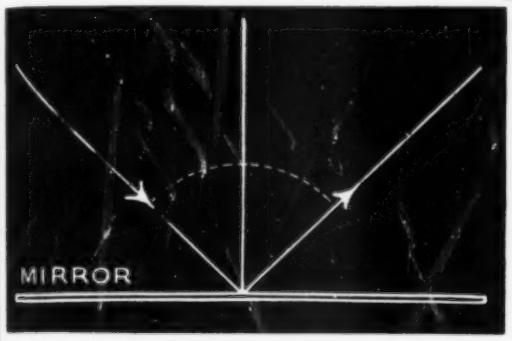
1. Pass light through different colored glass and report the result to your class.
2. Observe the effects of different colored lights on various pieces of colored cloth.
3. Make a color disc. (See the drawing on one of the picture pages. *Discovering Our World,* Book Three, and *Prove It Yourself,* both listed in the Bibliography, give further information.)

Why does this shoe reflect light when a dusty shoe would not? Tell why some other surfaces are shiny or dull. *H. Armstrong Roberts*

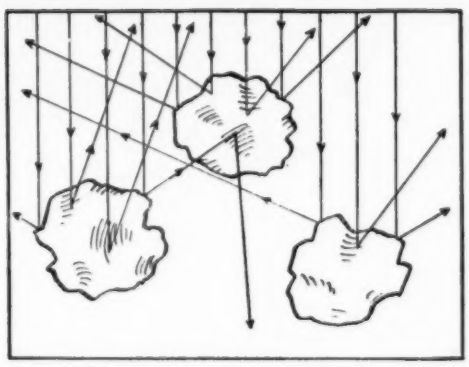
The smooth surface of this lake forms a mirror, reflecting the mountains. *H. Armstrong Roberts*

Signals at railway crossings shine red because red glass will allow only the red rays of light to pass through it.

HOW LIGHT *Behaves*

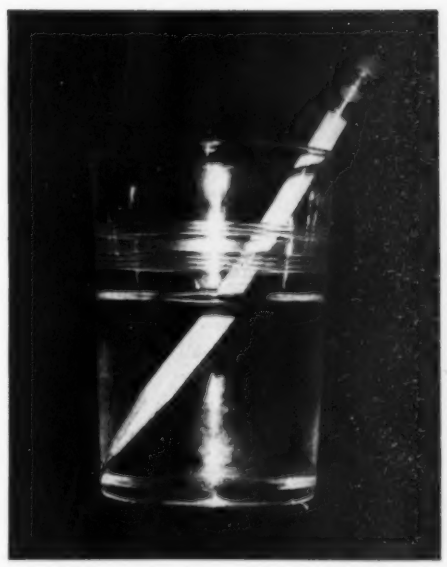


Light is always reflected at an angle equal to that at which it strikes. Try to show this with a small mirror.



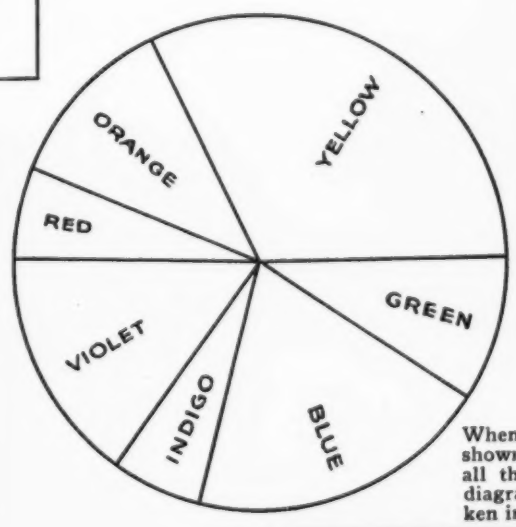
The diagram shows what happens when light strikes irregular surfaces. Since each light ray is reflected at the same angle at which it strikes, such a surface could not act as a mirror.

Why does this pencil appear to be broken at the place where air and water meet?

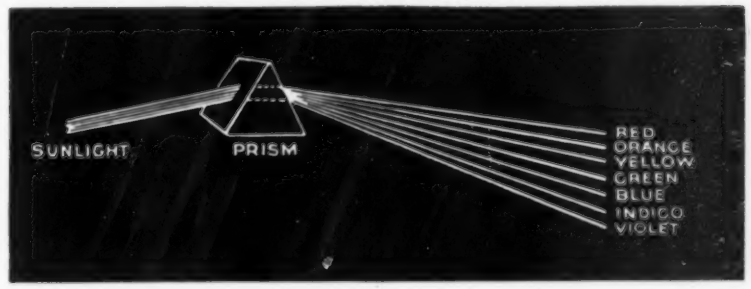


Nathaniel Field, from Ewing Galloway

Because of the presence of dust in the air, we are able to see beams of clear sunlight pouring through this big window. What does the picture show about the way light travels?



When a disk of pure colors arranged as shown in the diagram at the left is spun, all the colors blend into white. The diagram below shows light being broken into the rainbow colors by a prism.



ACTIVITIES BASED ON THE UNIT

For the Teacher

THE use of the activities suggested here will depend, of course, on the use made of the material in the unit. It is often profitable to use an activity to culminate the work of the unit. Such an activity should summarize the unit and require the pupils to do some organizing of material so that they will more clearly understand the unit which they have covered. Some typical activities are: giving an assembly program using experiments and talks; making a booklet of pictures, stories, accounts of experiments, and so on; preparing slides to show in a projector; or giving oral reports on various phases of the material covered.

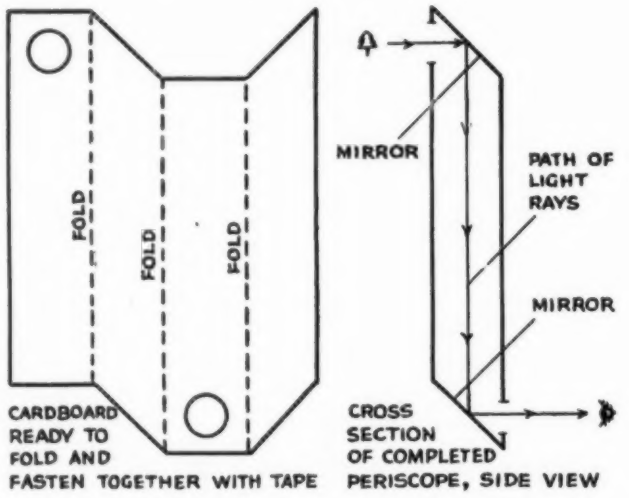
The activities mentioned here may be grouped together to form such a culminating activity or they may be used as group or individual projects for the more interested pupils. A selection of activities made from the various grade levels may be more useful than conforming strictly to the grade levels indicated.

For Primary Grades

1. Read some stories about the "land of the midnight sun."
2. Watch the sun rise or set, and notice how the light grows brighter or fades.
3. Ask someone to explain how neon signs give light.
4. Ask some older people how streets and vehicles were lighted before electricity was used.
5. Use mirrors to "throw" light from one place to another.
6. Find different surfaces that are mirrors, and notice how they form images. Use spoons, bright kettles, automobile surfaces, and so on.
7. Make a list of things you can do at night because electricity gives you the light you need.

For Middle Grades

1. Think of original experiments to prove that: (1) Light travels in straight lines. (2) Some surfaces are better reflectors than others. (3) Refraction makes things appear out of shape. (4) Sunlight is really made of many different colors.
2. Experiment to see what happens to a beam of light when it goes through a lens.
3. Examine a camera and discover how the shutter works. If you can locate an old camera, perhaps you can take it apart and examine the lens and other parts.
4. Read the life story of Thomas Edison, and find out about the invention of the electric lamp.
5. Try to examine a motion-picture projecting machine to see how it works. Examine the film, too. Perhaps someone in your class may have a machine at home which he could bring to school.
6. Examine the spectacles of different pupils in your room or of your other friends. Look up the meaning of *nearsighted* and *farsighted*, and find out how eyeglasses correct these conditions.
7. Make a set of rules for caring for your eyes. Perhaps the school nurse, a doctor, or an eye specialist in your community will check your rules to see that they are good. Keep the rules and follow them.
8. Try writing your name so that it can be read in a mirror.
9. Make a periscope. You will need two mirrors of the same size, a piece of corrugated cardboard about sixteen inches long and wide enough to fit around the mirrors, and adhesive tape. (Corrugated cardboard is suggested because it can easily be bent in straight lines.) The cardboard is shaped as you see in the drawing, and is held together by adhesive tape. The mirrors, placed at a slant at either end, face in, are held in place by tape. If the slant of the mirrors is not right, the periscope will not work. They need to slant at an angle of about 45°. Opposite each mirror a hole is cut in the cardboard. The diagram shows how light travels through the periscope from one mirror to the other, enabling a person whose eye is at one opening to see an object which is opposite the other opening. A more substantial periscope can be made by using thin wood in place of the cardboard. If you can find a picture of a submarine, look for its periscope.



For Upper Grades

1. Study the lighting in your home. If you use electricity, find out where it comes from, how the electricity you use is measured by the electric meter, how much your electric bill is for a certain period of time, and whether your lighting is satisfactory in every respect. Tell your parents that you would like to measure the amount of light received from various sources (lamps, ceiling lights, and so on) and perhaps they will help you arrange an interview with someone in your town or community who has a light meter for that purpose. Perhaps you can find ways to improve your home lighting. Report any findings to your class.
2. Make a study of your school lighting. Perhaps someone will come to your class and explain how your school has been planned and equipped so that you will receive the proper amount of light. Examine the walls and the light fixtures and find out how the color of the walls affects lighting.
3. Find out why each of the following is important: (1) avoiding a glare when reading, (2) locating lamps in the room properly, (3) using light wallpaper and ceiling cover in dark rooms, (4) never reading in direct sunlight or looking directly at the sun.
4. Try to find out how light is used in signaling. Some members of your class may visit a railway station to find out how the signal lights operate; others may visit an airport; someone else may find out about lighthouses, lights on ships, and searchlights.
5. Examine an electric-light bulb carefully. Try to find out: (1) what kind of wire is used inside the bulb; (2) what gas is placed in the bulb; (3) what happens when the bulb burns out.
6. Find some different colored pieces of glass or transparent cellulose tissue and use them to find out: (1) what color things look when you see them through blue glass; (2) what happens when you look through two differently colored pieces of glass at the same time; (3) whether a red beam of light can be reflected; (4) what colors you can see when you look through red glass at red, green, or purple.
7. Try to find a red electric-light bulb and look at different colored materials in the light. Compare the color of cloth in sunlight with the color in electric light or other artificial light. Can you explain why clothing sometimes looks different out of doors than it does in a store, and why two colors may match in daylight and not under an electric light?
8. Cut a circle of cardboard and push a nail through the middle of it so it will spin easily. Color half the card red and the other half blue. Try to explain what happens when you spin the card.

TEACHERS' HELP-ONE-ANOTHER CLUB

WINTER BIRD STUDY

GRACE USHER

■ IN OUR rural school district we found a number of abandoned bird's nests in the trees and bushes. We tacked up on our bulletin board a nest of each kind of bird. Then we drew and colored a picture of each bird, cut it out, and pasted it below the matching nest.

Using equal parts of flour and salt, mixed with water until a claylike mixture was formed, we molded a number of eggs of the approximate size and shape of each bird's own eggs. When they were dry, we painted them in natural colors and put the correct color and number of eggs in each nest.

This exhibit is very attractive, and adds a gay bit of color to the room.

INDIVIDUAL MAGAZINES

FLORENCE ALFRED

■ A GOOD activity to be carried out for one month, or monthly for a term, is to allow each child to publish his own magazine. While intended primarily as a language plan, it correlates all other subjects.

The magazine may be varied as to type of cover, paper, and size. It may be loose-leaf or bound, and its contents may be copied directly therein, pasted in, or inserted if loose-leaf.

An art picture studied during the month, a picture featuring a holiday, or something especially liked by the pupil may be pasted on the cover. If he enjoys drawing, he may wish to make an original design.

The material within the magazine also may be greatly varied. It may be regular classwork, if planned with that end in view, although the pupil must not consider his magazine merely a file for his daily work. There must be something extra in the contents to keep up his interest. His stories may be written in class for magazine use, which furnishes a very excellent motivation. He may choose an interesting arithmetic lesson, make a puzzle from some hard spelling words, write a book review, or in other ways center his material about his regular work.

The contents can be patterned after children's magazines, and can be as simple or elaborate as the child's talents and abilities allow.

A READING MATCH

CAMMIE DUNNING

■ FOR the past six weeks my fifth grade has sponsored a weekly reading match for the fourth, fifth, and sixth grades which has aroused great interest. As a result much good work has been accomplished by the grades which have participated.

Each of the two grades that are to compete selects a story (previously studied) from its reading textbook. Then each grade works on the story for a week before the match is held.

The reading match is carried out very much like a spelling match. The two grades line up on opposite sides. The first pupil in one line begins by reading the first paragraph of his story, and then his opponent reads the first paragraph of his story.

The stories continue, with each pupil in line reading one paragraph. The pupil who miscalls or mispronounces a word has to sit down, and the story is taken up, beginning with the first of the paragraph in which the error was made. At the end of thirty minutes, the grade that has the greatest number standing wins the match.

Our pupils have derived a great deal of pleasure from these reading matches. They have improved in oral reading, and have gained poise and self-confidence. They have also learned to refer to the dictionary more frequently and more purposefully in all of their work.

BETTER ARITHMETIC

VIRGIL E. KARMGARD

■ WHEN each of my pupils has finished the day's assignment in his arithmetic workbook, he writes his name on the blackboard. When I have time during the arithmetic period each pupil comes to my desk in turn to have his work corrected. Unless he gets 100 per cent, I do not put any grade in the book until the close of the period, but instead mark each problem right or wrong.

He goes back to his desk to correct the mistakes, and repeats the process of writing his name at the bottom of the list and coming up in turn for correction. This is continued as many times as necessary for him to get all the answers correct and the work otherwise done satisfactorily, or until the close of the period, when he receives a grade for his best effort.

As soon as a pupil gets 100 per cent, he writes his name in another place on the blackboard under the heading, "100's in Arithmetic Today." The result in most cases is that the child is especially careful to do his assignment well the first time, so that he will be one of the first to have his work corrected and to get on the "100" arithmetic list for the day.

A HISTORY-DRILL DEVICE

SYLVIA SNYDER

■ I FIND this device very helpful for history drill in my fifth and sixth grades when I want to drill on topics or important facts or persons.

I write the names of the topics to be reviewed on small cards or slips, allowing each child to draw one. When called upon, he rises and tells all he can about his topic. To make the test more interesting, we sometimes make it a guessing game. As the child reports, he does not mention the subject by name, and when he has finished, the rest of the class guess what person or topic he was discussing. By this method each pupil must be informed on all the material in the lesson. I sometimes allow two or three minutes for a quick review of the pages to be covered before the drawing of the slips takes place. The pupils enjoy these drills.

To Club Contributors

■ MANY teachers contribute short, helpful articles to this department, and thousands of teachers are benefited by these valuable contributions. We are eager to have you share with other teachers any school experience that you think might be of assistance to them.

One dollar is paid upon publication for each article used in these columns. An additional dollar will be paid for each accompanying photograph that we are able to publish. Send us brief accounts of ideas that you have worked out successfully.

Please follow these rules in preparing manuscripts for the Help-One-Another Club.

No article should exceed 300 words.

Put your name and address in the upper left-hand corner of the first page of each manuscript. (A married woman should give her Christian name, not her husband's.)

If you are submitting more than one article, always use a separate sheet of paper for each.

Typewrite your article, if possible, using *double spacing*; otherwise write plainly, on one side of the sheet only, and leave space between the lines. Use plain white paper, 8½" x 11".

If you send a letter with an article, write it on a separate sheet. However, no accompanying letter is required.

If you send photographs with an article, write your name and address on the back of each one.

All mail for this department should be addressed to Teachers' Help-One-Another Club, THE INSTRUCTOR, Dansville, N.Y.

Unavailable articles sent to the Teachers' Help-One-Another Club are not returned.

OUTDATED GREETING CARDS

JULIA POWELL

■ SAVE all of your outdated holiday greeting cards, and collect some from your friends. These cards have many schoolroom uses. The pictures are effective as decorations for calendars, match scratchers, bookmarks, puzzles, and so on, made by the children for gifts.

Many of the larger pictures are reproductions of the best in art, and may be used for exhibit on the bulletin board, for scrapbooks, and as a basis for art and language work.

OUR BOOKCASE

GEORGE W. PAULI

■ SINCE our bookshelves were small and we did not have adequate space for books, we made a substantial bookcase out of four orange crates. It is a very attractive addition to the room.

To make the bookcase, first paste strips of cotton (old clothing) over all open spaces of the crates. The top, a single piece of wood 4½′ x 1′ x ¾″, is screwed on from the inside of the crates so that it will serve as a smooth table top. The legs, 2¾″ square and 6½″ high, are nailed on from the inside with long nails. A board is nailed underneath the crates for support but does not show.

Sandpaper the top well and round off the corners. Cover the sides, inside and out, with plain wallpaper and fit in pieces of linoleum on the shelves. The children may be able to bring pieces of leftover linoleum from home. Give all the exposed parts, including the front edges of the crates, three coats of bright paint and you will be delighted with the result.

Smaller bookcases can be made by using two or three orange crates.

Modernistic bookcases may also be made from orange crates.

THE SCHOOL'S MUSIC BOX

VERDIE WILSON SUGY

■ FEELING the need of music appreciation in our schoolroom, I brought to school a small portable phonograph and a few records by the masters.

We have simple appreciation lessons in which we discuss the type of music played, the instrument used, and the feeling that particular pieces cause us to have. Sometimes we listen to a story about the composer's life.

On rainy days, when play outdoors is impossible, our music box helps the long recess and lunch hour to pass happily.

When the weather is suitable, we take our phonograph and go for a walk to the edge of the near-by woods. Here we listen to music "just for fun."

Rest time follows our outdoor play periods. At this time I may play softly MacDowell's "To a Water Lily," or Brahms's "Lullaby."

A LABELED SCHOOLROOM

ELLEN CLAIRE PAINE

■ A TEN-CENT folder of gummed labels has saved me much hunting this past year. I typed (in capital letters) such words as "catalogues," "geography," "handcraft," and so on, on the labels and placed one on each extra seat in the room. I also put the child's name on his own desk and on his supplementary desk.

In the library, so that the child could readily find the type of book he wanted, I labeled the shelves with their proper classifications. Furthermore, I labeled the coatroom. My notebooks and folders all have typed gummed labels on the sides to help me find material in an instant.

These labels are inconspicuous, neat, and easily replaced. If you are tired of fumbling for your material, try a typed label system.

A GROCERY STORE

ELSIE ADAMS

■ BESIDES providing considerable enjoyment, our second-grade grocery store served to motivate the mastery of arithmetic combinations, provided practice for lessons in courtesy, and stimulated interest in the sources of foods.

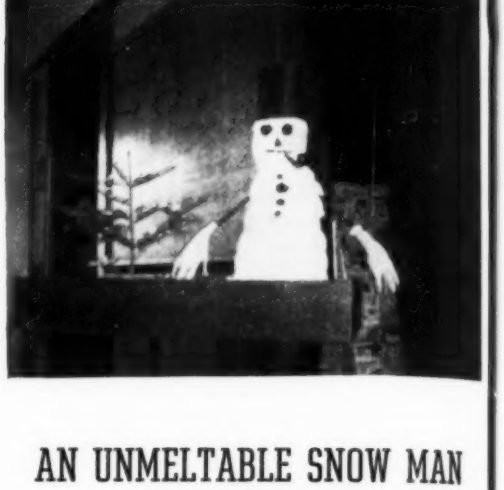
Pupils read with interest "The Story of Bananas," and then told the story in large pictures that they painted. Other children spent happy periods modeling and painting clay fruit and vegetables.

The committees chosen included one to plan the building, one to make toy money, and another to make signs and price tags. Sales slips were made out for each purchase, and were inspected by a cashier.

Boxes were covered with brown paper and painted to represent bricks. The windows were of transparent cellulose tissue. Each pupil brought to school empty butter boxes, cocoa cans, and so on. These were all marked with the actual prices.

To be storekeeper, clerk, or cashier was a satisfying and thrilling achievement, for only those were chosen who knew the addition and subtraction combinations and could make correct change.

Whenever the grocery store was open for business, there was always a line of patiently waiting customers.



AN UNMELTABLE SNOW MAN

LENA DANNER

■ CHILDREN, especially those who have never made a real snow man, will like to make this one. It has an advantage over a real one since it can be made indoors.

First, fill with paper three paper sacks of different sizes according to the size of snow man you desire. Make each sack as round as possible.

Place the sacks one on top of another, with the largest for the body and the smallest for the head. Put a stick through the center of all three sacks to keep them together and help the snow man to stand. Two small branches, one stuck in on either side of the middle sack, will make good arms for the snow man.

Cover all except the arms with cotton. Paste construction-paper buttons, eyes, nose, and mouth on the snow man. Place on his head a real hat, or one made of construction paper. Sprinkle the cotton with artificial snow to give the snow man a realistic effect.

CIGAR-BOX FOOTSTOOLS

MARY McDONALD

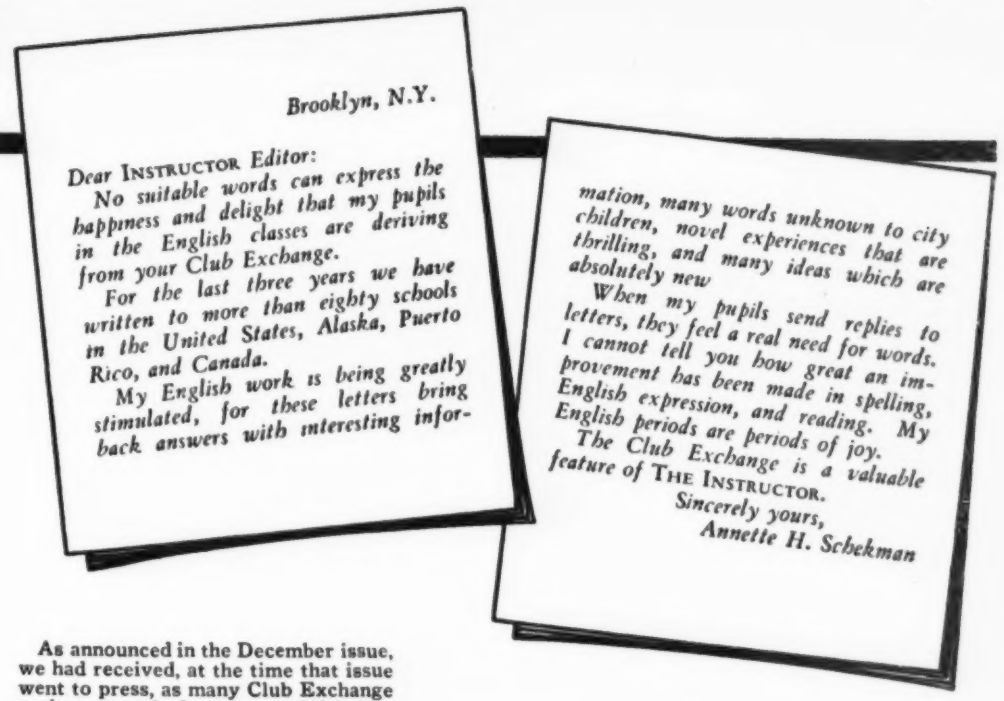
■ CIGAR boxes may be put to a good use in the schoolroom. Cover the boxes with heavy brown paper and place them as footstools under the desks of children whose feet do not reach the floor. At the close of the day, each child may place his box on top of his desk, thus getting it out of the way for sweeping the room. When the boxes become soiled, clean paper can be easily pasted on them.

HANDKERCHIEF PARADE

CHASTA KEELE

■ I HAVE had trouble in getting the smaller children to bring handkerchiefs to school every day. I finally hit upon the idea of having a handkerchief parade every morning. Everyone with a handkerchief is allowed to march around the room in the parade, and those who forget theirs have to sit in their seats. If everyone in the room has a handkerchief, we use the phonograph to march with music. I have used this plan successfully for two years, because all children like to march, and dislike to sit in their seats while others are marching.

CLUB EXCHANGE



Brooklyn, N.Y.

Dear INSTRUCTOR Editor:

No suitable words can express the happiness and delight that my pupils in the English classes are deriving from your Club Exchange.

For the last three years we have written to more than eighty schools in the United States, Alaska, Puerto Rico, and Canada.

My English work is being greatly stimulated, for these letters bring back answers with interesting information, many words unknown to city children, novel experiences that are thrilling, and many ideas which are absolutely new

When my pupils send replies to letters, they feel a real need for words. I cannot tell you how great an improvement has been made in spelling, English expression, and reading. My English periods are periods of joy.

The Club Exchange is a valuable feature of THE INSTRUCTOR.

Sincerely yours,
Annette H. Schekman

Georgia.—My pupils, grades two to four, and I wish to exchange letters, products, schoolwork, and papers with pupils and teachers of other states and foreign countries. Address: Mrs. E. Lucyle Knox, Fayetteville, Georgia.

Georgia.—My pupils, fourth grade of Hoboken High School, and I would like to correspond with pupils and teachers in all states and foreign countries. Address: Miss Winona Dowling, Hoboken, Georgia.

Iowa.—My pupils, sixth and eighth grades, Lake No. 2 School, and I would like to hear from pupils and teachers in any other state. We should like also to exchange snapshots and schoolwork. Address: Miss Doris C. Paulsen, Gilmore City, Iowa.

Iowa.—My pupils of Botna View James No. 6 School, grades one, four, five, six, and seven, and I would like to correspond with other pupils and teachers in the United States and Canada. Address: Miss Lucille Griffith, care of R. W. Olsen, Hancock, Iowa.

Michigan.—My pupils (rural school), grades one to eight, inclusive, and I would like to exchange letters, schoolwork, products, and souvenirs with children and teachers of Arabia, China, and India. Address mail to: Miss Ira Brownell, Brant, Michigan.

Michigan.—My pupils, fourth to eighth grades, and I wish to exchange letters, pictures, post cards, and souvenirs with teachers and pupils of other schools in different states. Address: Miss Zelma Beers, Soper School, Grand Ledge, Michigan.

Michigan.—My eighth-grade pupils of Star School would like to exchange letters with pupils of the same grade in France. Address: Miss Lola Miller, R.D. 3, Scottville, Michigan.

Minnesota.—We wish to exchange correspondence, schoolwork, exhibits, pictures, and school papers with other schools in the United States and foreign countries. Our four rural schools have formed a correspondence club in order to have a better opportunity to answer all letters received. Address any one of the following teachers: Mrs. Wilma Nobbs, Miss Mildred Peterson, Miss Ethel Faltejsek—all of Blooming Prairie, Minnesota.

Minnesota.—My pupils, grades one, two, and three, New Grove School, and I would like to exchange letters, post cards, pictures, products, and stamps with teachers and pupils in the United States and foreign countries. Address: Miss Vivian Jacobsen, Hendricks, Minnesota.

Minnesota.—The pupils of our three-teacher school, grades one through eight, wish to exchange correspondence, stamps, post cards, letters, pictures, and products with pupils from all forty-eight states. Address all mail to: Mr. A. H. Johlfs, Principal, Plato, Minnesota.

Mississippi.—My pupils, fourth and fifth grades, of Pope High School, and I would like to exchange letters, cards, souvenirs, and products with pupils of other schools in all states of the United States, its possessions, Canada, and other foreign countries. Address correspondence to: Mrs. Haywood Hubbard, Pope, Mississippi.

Missouri.—My pupils, grades seven and eight, and I would like to exchange correspondence, post cards, pictures, products, and souvenirs with teachers and pupils of other schools in all states and foreign countries. We live in the Ozark Region of Missouri about sixty-five miles from the Lake of the Ozarks, and about eighty miles from the "Shepherd of the Hills" country. Address: Miss Dimple Marlin, Charity Grade School, Elkland, Missouri.

Montana.—The pupils of Lone Tree School, grades two, three, five, seven, and eight, and teacher would like to exchange letters, pictures, souvenirs, and products with pupils and teachers in other schools in the United States, its possessions, and foreign countries. Address: Miss Elizabeth Raunig, care of C. Morgan, Ekalaka, Montana.

As announced in the December issue, we had received, at the time that issue went to press, as many Club Exchange notices as we had room to publish during the present school year. Notices appear in the order in which they are received. If your notice came too late for publication, we are sorry. From the items that will be published during the remaining months, your pupils will be able to choose a widely distributed list of schools with which to correspond.

New Hampshire.—The pupils of Neal School, grades five, six, seven, and eight, and teacher would like to exchange letters, post cards, pictures, and products with schools in the United States and foreign countries. Address: Miss Lily D. Heath, R.D. 2, Manchester, New Hampshire.

New York.—My pupils, third, fourth, and fifth grades, would like to exchange letters and post cards with pupils of the same grades in any of the states of the United States, its possessions, or foreign countries. Address: Miss Marion Craig, Altmar Union School, Altmar, New York.

New York.—The pupils of District No. 2, grades one to eight, would like to exchange letters, cards, and souvenirs with pupils of other states and countries. We especially enjoy letters from the West and South. Address mail to: Miss Marian Post, Scipio Center, New York.

North Dakota.—My pupils and I, Ellwein School, grades five to eight, would like to exchange letters, post cards, pictures, souvenirs, products, and schoolwork with children and teachers in the United States, its possessions, Canada, or other foreign countries. Address: Miss Bertha Latimer, Krem, North Dakota.

North Dakota.—My pupils, grades one to seven, and I would like to exchange letters, samples of schoolwork, directions for games that the pupils enjoy playing, and ideas for art work with schools in any of the states or foreign countries. Address: Miss Grace Reise, R.D. 1, Oakes, North Dakota.

North Dakota.—My pupils, grades four, five, and six, of Pingree Public School, and I wish to exchange letters and products with schools in the United States or foreign countries. We especially desire specimens for our school museum. Address: Miss Myrinne Anderson, Pingree, North Dakota.

Ohio.—The pupils of the fifth and sixth grades of Lenox School would like to exchange letters, pictures, post cards, and schoolwork with other schools of the United States, Canada, Alaska, and island possessions of the United States. Address: Mr. Robert Scribner, R.D. 2, Jefferson, Ohio.

Pennsylvania.—The pupils of Walnut Avenue School would like to correspond with pupils of other schools in any state or possession of the United States. Address mail to: Miss Ethel Ketter, Clairton, Pennsylvania.

Pennsylvania.—The pupils of Merkel's Run School would like to exchange letters and pictures with other rural schools of the United States. Address all mail to: Mr. Samuel F. C. Kemmerer, Fleetwood, Pennsylvania.

Pennsylvania.—My pupils of grade three would like to exchange letters with other pupils of the United States, its possessions, and foreign countries. Address mail to: Miss Mary F. Sharp, Penbrook Borough School, Harrisburg, Pennsylvania.

Tennessee.—My fifth grade and I would like to correspond with pupils and teachers of other states or foreign countries. Address: Miss Frances White, Bethel School, Giles County, Bethel, Tennessee.

Tennessee.—The pupils of my sixth grade would like to exchange letters, post cards, or pictures with pupils anywhere in the United States, its possessions, or foreign countries. Address: Miss Evelyn Baird, Bethel Grove School, Memphis, Tennessee.

Tennessee.—My pupils in grades six, seven, and eight would like to exchange letters, post cards, products, and souvenirs with pupils in any state of the United States or foreign country. Address: Mr. W. R. Stratton, Citico School, Vonore, Tennessee.

Texas.—My Mexican fourth-grade pupils would like to exchange letters, pictures, and souvenirs with pupils of other schools in the United States and foreign countries. Address: Miss Maxine Garrett, Brackettville, Texas.

West Virginia.—The pupils of Lower Laurel School, grades one to eight, inclusive, would like to exchange post cards, pictures, products, and schoolwork with children and teachers in other parts of the United States. Address: Miss Mabel Gillinwater, Hamlin, West Virginia.

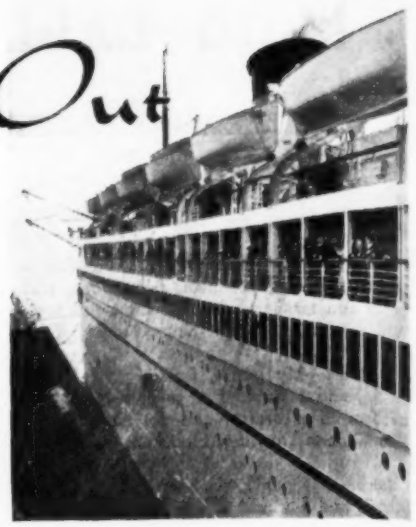
West Virginia.—The pupils and teacher of grades one to six of Liberty School wish to exchange letters, pictures, products, samples of schoolwork, and post cards with schools in Alabama, California, and other states, and Alaska, Mexico, and Africa. Address all correspondence to: Miss Mary L. Hairston, 276 E. Third Ave., Williamson, West Virginia.

Wisconsin.—My pupils in the fourth, fifth, seventh, and eighth grades would like to exchange letters with schools in the United States and its possessions or in any foreign country. Address: Miss Anita Zarling, Huilsburg School, Rubicon, Wisconsin.

Wisconsin.—My pupils and I would like to exchange scenic post cards with schools in the United States and its possessions. Address: Miss Laura Buelow, Otter Creek, Sauk City, Wisconsin.

Wisconsin.—My pupils, grade two, would like to exchange letters, post cards, and souvenirs with pupils of other states and foreign countries. Address mail to: Miss Ruth Southern, Woodrow Wilson School, 87th and Orchard St., West Allis, Wisconsin.

If You Should Sail Out



Passengers and their friends on the pier are joined by myriad confetti streamers.

Nara, long ago the Japanese capital, contains a sacred deer park, remarkable temples, and a gigantic Buddha. *Alfred T. Palmer*

A Close-up of Hawaii

ALDEN CARVER NAUD

Teacher, Opportunity Room, Dool School, Calexico, California

Prize Winner, The Instructor Travel Contest for 1939

■ MOST of all I want a close-up of those mere dots on the map that I know are the Hawaiian Islands, away out in the middle of the Pacific Ocean. I've seen continental America from Hell's Gate to the Golden Gate, from Canada to Mexico—canyons, waterfalls, mountains, caverns, valleys, rivers, islands, cities. Now Uncle Sam's insular possessions are calling me. They have always called me. I have wanted to visit Honolulu ever since my grammar-school days, years ago and miles away in a lumber-mill town in northern Wisconsin, when I first learned of the enchanting Hawaiians.

I live in the arid Southwest. Continually in my mind and heart I know and feel the contrast between my desert *(Continued on page 70)*

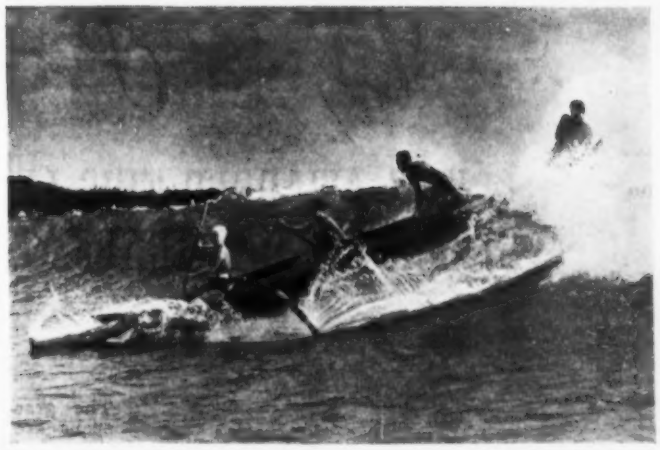
In the Dutch East Indies, terraces that will hold water are made for the rice paddies along the hillsides. *Alfred T. Palmer*

Hawaiian dancers, wearing leis, and musicians treat visitors to a taste of native rhythm and melody. *Mona Hennessey*

Left: Manila's version of the hansom cab is the caramata. *Right:* The golfer in Hawaii seeks out the attractive Waialae Course near Honolulu.

the Golden Gate . . .

ON A SABBATICAL LEAVE OR VACATION TRIP



Sergeant Sola of Suva, Fijian policeman, often poses for his picture.

Above: Riding waves in an outrigger canoe is a thrilling Hawaiian sport. *Left:* From the Chateau in Tongariro National Park, New Zealand, one sees an active volcano, Mount Ngauruhoe.

The intelligent and athletic native race of New Zealand, the Maoris, live in the region of geysers.

"Down Under"

MONA HENNESSEY

Teacher, Second Grade, Richmond Public School, Richmond, California

Prize Winner, The Instructor Travel Contest for 1939

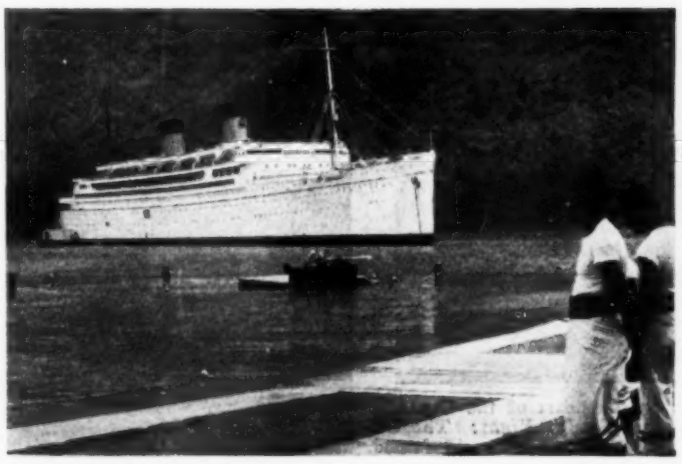
■ THERE are many corners of this world I have not yet explored. Still, if I could do as I please this summer, I would *again* board a boat at San Francisco and sail through the lazy tropics to the winter "Down Under."

Hawaii, Samoa, Fiji Islands, New Zealand, Australia! What romance and adventure in those names—and the reality surpasses all one's expectations and dreams!

Even more important to the enjoyment of a cruise than the comfort of a roomy, luxurious boat are the people with whom one is to share seven weeks of travel. On my trip they were largely New Zealanders and Australians, with representatives of American and foreign business firms making their routine journeys.

More likable people than the New Zealanders and Australians (*Continued on page 71*)

The koala of Australia is the nearest thing to a live "Teddy bear." When fully grown, it is only two feet long.

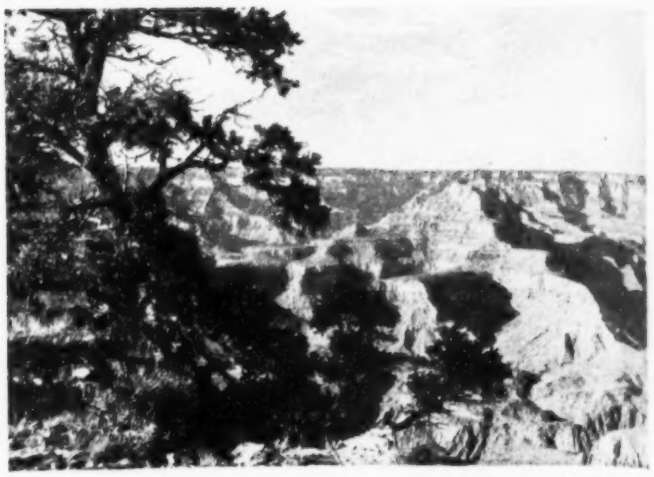


Left: In the harbor of Pago Pago, Samoa, a cruise ship rides safely at anchor. *Right:* A Samoan chieftain goes through one of the ritual dances inside his hut.

★ *Third Prize* ★

WAS AWARDED THIS LETTER IN OUR ANNUAL TRAVEL CONTEST

The graceful suspension spans are only one section of the 8¼-mile San Francisco Bay Bridge.



From the South Rim of the Grand Canyon, one sees changing patterns of light and shadow.

Going West Again

EVA CATHERINE VARNELL

Teacher, Third Grade, and Primary Supervisor, Schools of Baraboo, Wisconsin

Winner of Third Prize, The Instructor Travel Contest for 1939

■ "WHERE would I like to go on my vacation this year—and why?" Well, I'll tell you. I have a longing to retrace my steps of some years past, and go west to see what Time has done to the great open spaces.

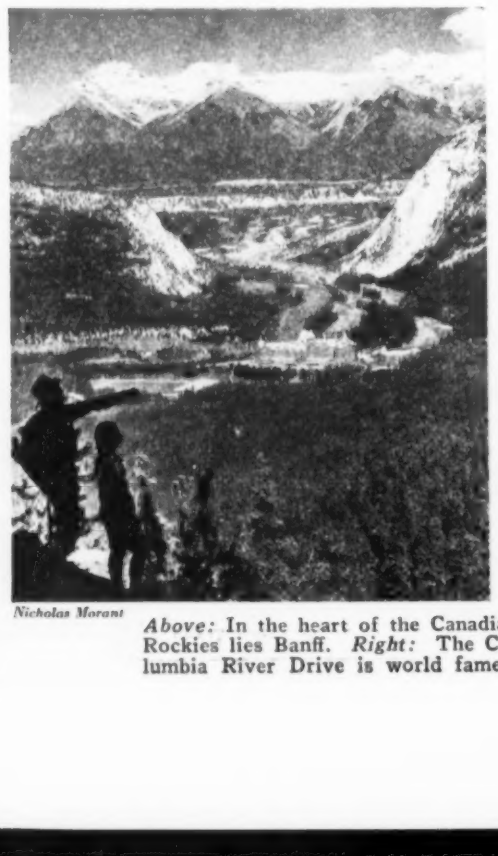
What will it be like, I wonder, again to get that first glimpse of the majestic Canadian Rockies, and go on to Banff National Park, where emerald streams, like ribbons, foam down the mountain sides, and one is surrounded by mighty peaks, vast glaciers, and gemlike lakes?

What emotions will be stirred when traveling through a country, once a vast forest of magnificent firs, dim and moist from recent rains, with ferns and salal bushes thick at their feet—now laid bare by the hand of man in his ruthless stride toward "progress"?

How will it feel to stand once more on the water front in Seattle and feel the pulsing life of seafaring people—where Occidental touches hands with Oriental, where in the tiny shops beneath the docks beautiful coral and shells from tropical isles of the South Seas mingle with baskets and carvings from the far northern Aleutian Islands? And the sunsets across Puget Sound—will they be just as ravishing; indescribable as the colors of a butterfly?

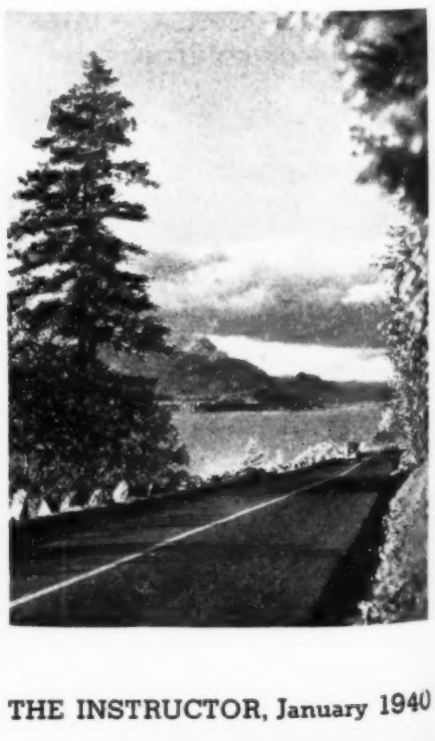
There will be lovely things to anticipate on the journey south: Mount Rainier and later Mount Shasta; the Columbia River and the Columbia River Highway; at last San Francisco with its delightful associations! How will it seem to be whirled swiftly in a motorcar out across the Bay on that magnificent achievement of man, the San Francisco-Oakland Bay Bridge—instead of walking through the Ferry Building to the ferryboat, slipping noiselessly out across the Bay, tossing tidbits to the gulls and enjoying the quietness of the passage? (*Continued on page 71*)

Above: Mount Rainier is a thrilling sight.
Below: Seattle's water front is a busy one.



Nicholas Morant

Above: In the heart of the Canadian Rockies lies Banff. *Right:* The Columbia River Drive is world famed.



YOUR COUNSELOR SERVICE

Solving Your Language Problems

MILDRED A. DAWSON

Associate Professor of Elementary Education,
University of Tennessee,
Knoxville, Tennessee

WHEN questions arise in your schoolroom in connection with correct English usage and the teaching of English, send them to Dr. Dawson, in care of THE INSTRUCTOR, Editorial Department, Dansville, N.Y. If you wish to receive a reply by mail, enclose a stamped, addressed envelope.

What is the value of verse choirs in grades six, seven, and eight? Would choric speech help to vitalize our work in English and cause students to take more interest in the study of poetry?

Teachers who have introduced choric speech and verse choirs into their English programs report that such activities have had a decidedly vitalizing effect. Not only do the pupils more fully enjoy the rhythm and tone qualities of poetry and rhythmic prose, but they become conscious of the greater possibilities in their own everyday speech. Children who become proficient in choric speaking tend gradually to improve in speech, voice, and diction because musical and rhythmic effects are possible only as the individual members of the group enunciate clearly and speak in well-rounded, distinct tones. Oral reading is similarly improved. There is also noticeable a growing tendency on the part of the pupils to read with genuine comprehension because only through truly thoughtful reading can a pupil stress the proper phrases and respond with suitable inflection and tone quality.

There are many "concomitant learnings" ascribed to participation in verse choirs. The timid child is likely to feel no embarrassment as he joins the group in choric speaking. Indeed, he is likely soon to be willing to engage in quartet, trio, duet, and even solo parts. On the other hand, the aggressive and overbold child may gradually gain a group feeling and stop trying to dominate a situation.

Any teacher about to initiate the practice of choric speaking should be careful to begin with poems that are very simple both in thought and rhythm. Those with refrains are especially suitable, because the teacher or an apt pupil may read the body of the poem, and the class as a whole may join in the refrain. (There must be no singsong effects.) A new collection by Marjorie Barrows, *Two Hundred Best Poems for Boys and Girls* (obtainable at ten-cent stores), contains much verse suitable for use in verse choirs.

Pupils may gradually be grouped according to the lightness or depth of their voices, the groups alternating in reading lines or groups of lines. There are innumerable possibilities in combining voices to get musical effects suitable to the spirit and meaning of the poems to be treated.

Two references that may be helpful are: *Poetry Speaking for Children,* by Marjorie Gullan and Percival Gurrey (Expression Co., Boston; Part 1, $1.00; Part 2, $1.25; and Part 3, $1.50) and *Choral Speaking Arrangements for the Upper Grades,* by Louise Abney and Grace Rowe (Expression Co., Boston; $1.00).

◆

Please suggest a systematic course of training in the use of the dictionary for pupils in the middle grades.

The preparatory aspects of a dictionary-training course should be developed in third grade: (1) learning the letters of the alphabet in order, (2) syllabication of polysyllables, and (3) the identification of smaller words found in big ones.

Alphabetical order may be stressed in connection with using the telephone directory, listing library books, filing seatwork exercises, or in building a class chart for recording test results. Syllabication is needed in learning to spell and to pronounce some long words. Word identification will come when the teacher is trying to help the children to recognize new words by their similarity to known words.

In fourth grade there should be a four-part program: (1) practice in alphabetizing lists of words, (2) location of words in index and dictionary, (3) sounding words, and (4) selecting meanings appropriate to the context.

Alphabetizing should involve lists of words (a) none of which begin with the same letter, (b) several beginning with the same initial letter when the second letter is disregarded, and (c) several beginning with the same initial letter when the second letter is regarded. In locating words, the pupils should have preliminary exercises in (a) opening halfway, one fourth of the way, and so on, through the dictionary, and (b) attempting to open it at a part where a particular initial letter is featured. Sounding out words involves the study and use of diacritical markings, syllabication, and the accent mark. The work in selecting meanings should arise out of needs met in other classes.

In fifth and sixth grades all work for the fourth grade should be reviewed. Much of the work will be a refinement of the skills already introduced, especially in correcting mispronunciations, learning substitutes for improperly used or trite words, and doing exercises featuring synonyms. In sixth grade there should be some formal study of prefixes and suffixes and a moderate program in the etymology or derivation of common words, such as *taxicab.* Correction in language usage will involve some knowledge of parts of speech and of various case and tense forms.

◆

What is wrong with the expression, "He is giving out," meaning tired?

There is nothing wrong with this expression. It is what we call a colloquialism, or phrase that is employed in informal conversation to express some specific meaning. Colloquialisms are colorful and forceful modes of speech, and are acceptable parts of a person's informal speaking vocabulary. However, there are occasions when a more formal type of speech and writing is demanded. Therefore, while a teacher does not try to eliminate truly expressive colloquialisms from her pupils' speech, she does make a definite attempt to supply the children with a large stock of synonyms for such expressions. For instance, the child who uses "giving out" should also know, and *use* in more formal situations, words such as the following: tired, fagged, weary, or exhausted.

Authorities in English teaching now recognize various styles of speech. First, there is the *illiterate* style characterized by crudities, mispronunciations, faulty enunciation, misspelling, and really gross errors in usage. Then there is *colloquial* speech, which is comfortable, readily understood, full of idioms, and distinctively forceful. There is besides the more *formal* style which is demanded, in school and out, for presenting carefully planned reports, debates, and discussions.

◆

How should I conduct a panel discussion?

Procedures for conducting a panel discussion vary. Some leaders expect the members of their panel to prepare brief organized talks beforehand and to take their turns in presenting these talks. The panel leader introduces the members of the panel to the audience —at least to the extent of stating the question at issue and indicating the phase which each member of the panel will discuss. Before the discussion begins, and between each two successive talks, the leader makes preliminary remarks and gives any necessary interpretation or supplementation.

A real panel discussion—as I see it —is much less formal and preplanned. In such a discussion, the general plan is rather conversational in that the leader introduces the point at issue, defines the question, and then directs a question to some member of the panel. This person responds in an informal way; then any member of the panel may volunteer supplementary remarks or ask a question related to the points that have just been made. For that matter, members of the audience may in a courteous manner proffer information or ask questions during the course of the discussion, but the leader must keep the discussion to the point.

This kind of panel discussion calls for considerable skill on the part of the leader, who may well be the teacher when pupils are first learning the technique. The leader always prepares beforehand an outline of the probable course of the discussion and may even post some members to prepare along specific lines.

Perhaps you would like to ask questions on school subjects not covered in "Your Counselor Service," or questions relating to guidance, school management, or teaching aids. If so, please send them to us with a stamped, addressed envelope, and we shall be glad to answer them. Address these questions to Your Counselor Service, THE INSTRUCTOR, Dansville, N.Y.

◆

See pages 62, 63, and 64 for other columns in "Your Counselor Service."

◆

In writing to our counselors tell them the age and grade of your pupils.

Your Reading Problems

DELIA E. KIBBE

Supervisor of Elementary Schools,
State Department of Public Instruction,
Madison, Wisconsin

DO YOU have difficulty in teaching reading? If so, send your problems to Miss Kibbe, in care of THE INSTRUCTOR, Editorial Department, Dansville, N.Y. Your questions will be answered in these columns, or by mail if you will enclose a stamped, addressed envelope.

How do school systems provide the necessary time for developing reading readiness in the first grade?

Some cities provide a transition year for the less mature children. The year is devoted to nonreading activities of the highest type of kindergarten work. The language skills, the experience background for reading, and the visual and auditory discrimination factors are developed. When the children show a readiness for reading, the work of teaching reading is begun.

In some places the children who are not ready to read are retained for an extra year or part of a year in the kindergarten. Other cities place all six-year-old children in the first grade and the less mature ones are given the nonreading program while other pupils begin reading activities when ready. Frequently all first-grade pupils participate in a nonreading program for several weeks before reading begins.

◆

How many books should sixth- and seventh-grade pupils read per month?

This depends entirely upon the type of book, the purpose for which the book is read, its size and difficulty, and the time available for reading. It seems unwise to set a standard of *amount* of reading to be done, for then the pupils would naturally look for easy material which could be read very rapidly. I should prefer to emphasize the reading of worth-while material with understanding, comprehension, and appreciation.

◆

I am teaching third and fourth grades and have only one set of readers for each grade. How can I use these books to best advantage?

I cannot conceive of any possible way to teach children to read satisfactorily with only one set of readers.

In such a situation, I should first use every possible means to persuade the people of the community to supply more adequate reading equipment. Talk to the parents, the principal, and the school board members about the need of many books if pupils are to acquire a habit of reading extensively. Convince the patrons that supplementary reading materials covering all fields of subject matter and all levels of reading difficulty are basic needs in any elementary school.

In the meantime, utilize all available materials. Many of the fundamental reading skills may be developed when using the history, geography, arithmetic, or science books. From these books and in these classes, pupils may learn to attack new words, to find answers to questions, to discover central thoughts, to get details, and to organize or summarize.

Habits of reading widely may be developed through the recreational library reading. Find each pupil's reading interests and help each to select library books which are suited to his reading ability.

◆

Should pupils be grouped for reading on the basis of intelligence tests?

Intelligence tests alone do not provide sufficient data for grouping children for specific teaching. Intelligent children are frequently good readers but such factors as emotional instability, attitude toward reading, poor health, and lack of visual discrimination and auditory acuity may place a bright child in the group of problem cases in reading.

Diagnostic reading test data, together with a study of the other factors mentioned, provide a better basis for grouping pupils.

◆

I have in my first grade a large number of very slow repeaters who have not as yet begun to read. My usual methods are unsuccessful. What shall I do?

It is impossible to give specific suggestions for special children without an opportunity to study the interests, the home environment, the personalities, health factors, habits of response, and language skills of these children. Usually any good teaching technique is appropriate if adjusted to the stage of development of the pupils.

It is likely that these children need many activities and experiences to arouse their interests and to stimulate thought reactions. Excursions, construction activities, experiences with museum materials, dramatizations, pictures, and illustrative materials will be very helpful in providing the necessary experience background. Charts using very simple sentences and vocabulary to record experiences should help.

Make all teaching as vivid as possible, providing much repetition of vocabulary, but have variety in the ways in which the words are presented and used, and recognize that slow progress only can be expected. Try to make each unit of work so simple that some achievement may be apparent to yourself and to the pupils.

Your Science Question Box

GLENN O. BLOUGH

Instructor in Science,
Laboratory Schools,
University of Chicago

HAVE you some troublesome problems in teaching science? If so, write Mr. Blough, in care of THE INSTRUCTOR, Editorial Department, Dansville, N.Y. He will answer your questions in these columns, or by mail if you will enclose a stamped, addressed envelope.

We have been keeping a live toad in our classroom. Would you permit the children to handle the toad? A few of the pupils are afraid of it.

It is not well for children to handle any animal too much. An animal should be kept in the classroom only while the class is studying it and then released in its natural environment, especially if you do not have adequate facilities for keeping it.

Generally speaking, if children wish to hold a toad in their hands there is no harm in it. This should be done under supervision, not because of any danger, for the toad is harmless, but because some children may be inclined to scare other children with it.

It is important that children learn to overcome fear of live animals of this kind, but not at all important nor even desirable that they should all learn to handle them.

◆

I am teaching a unit on astronomy and am required to give an auditorium program at the close of the unit. Can you offer a suggestion for this?

See the unit on astronomy in The Instructor Series of Illustrated Units, No. 8 (F. A. Owen Pub. Co., Dansville, N.Y.; $.30).

If none of the suggestions in this unit fit your classroom situation, you may make slides showing the planets, the moon, constellations, and so on, and have the children give talks explaining the slides. Directions for making such slides for use in a lantern are given in *Elementary Science for All Grades*, by Blough, Brink, and Dolman (F. A. Owen Pub. Co.; $.50).

◆

With no equipment except the text and a few reference books, how much activity in collecting and examining materials would you suggest? What form should the activities take?

An activity to be worth doing should make definite contribution to the knowledge, skills, and attitudes of the pupils. Some activities may be done by the class as a whole, some by individuals at home or at school, and others by committees selected from among the more interested pupils in the class.

Many activities can be carried out without a great deal of equipment. Collections can be made and kept permanently in the science room. Observations of plants, animals, stars, and so on, can be made and the results reported. Pupils may consult current newspapers, magazines, and any other sources for material bearing on the questions being considered. They may search such sources for pictures to illustrate points. They may talk to various people to collect information and report their findings.

The teacher's manuals accompanying *Discovering Our World*, Books I and II, by Beauchamp, Blough, and Melrose (Scott, Foresman & Co., Chicago), give lists of activities that may be carried on with little equipment.

◆

It seems difficult to find time in an already crowded program for science work. Can you suggest some ways of overcoming this difficulty?

Probably your school program provides some time each week for oral discussion in language. If you are in the habit of selecting subjects for these discussions from various books, perhaps you could use the periods to talk about science. Some of your reading time can easily be devoted to science.

When your science program begins to take definite form, you will find occasions when written work should logically be included. Such work may take the place of the written language work for the day or week. Frequently health and agriculture plans may be combined with a more organized form of science instruction.

◆

I am a teacher of the fifth grade. I have been asked to submit to our teachers an experiment or activity my class has undertaken. Please suggest something of interest. A demonstration of the making of a well-balanced aquarium was presented at the last meeting.

I would base my program for the teachers' meeting on a unit of work which the pupils have been doing. The program might consist of a culminating activity of the unit, such as lantern slides with talks, a handmade movie, or a series of experiments. Any collections, written work, or other activity material could be on hand for examination.

I suggest one of these units: "How Do Living Things Help and Harm Each Other?" "How Do Machines Help Us Do Our Work?" "Why Does the Weather Change?" "How Do Living Things Get Food?" "How Are Living Things Fitted to Live in Different Places?" A complete description of these units will be found in Book II of *Discovering Our World*, by Beauchamp, Blough, and Melrose (Scott, Foresman & Co., Chicago; $.96), a text for fifth grade.

YOUR • COUNSELOR • SERVICE

Art Questions Answered

JESSIE TODD

Supervisor of Art,
University Elementary School,
University of Chicago

IN THIS column Miss Todd will assist you each month with your art problems. Send your questions to Miss Jessie Todd, in care of THE INSTRUCTOR, Editorial Department, Dansville, N.Y. If you wish a reply by mail, enclose a stamped, addressed envelope.

What are the best ways of teaching art through finger painting? Is it possible to make a satisfactory paint or should a commercial product be used?

I would suggest that you refer to an article entitled "Finger Painting," found in the March 1937 issue of THE INSTRUCTOR. This is illustrated with children's work, and a recipe for making the paint is given. "Gifts for Mother's Day," in the May 1939 issue of THE INSTRUCTOR, shows gifts made from paper decorated with finger-painting designs.

◆

I am teaching art for the first time, and I shall appreciate any suggestions that you may give me. I have the first grade. Please mention also some books that would help me.

Let the children draw pictures as they wish. Like all other children, they will draw numerous small easy things, rather light in color. Do not criticize their efforts very much, but little by little teach them a graphic vocabulary. I have explained and illustrated this in *Drawing in the Elementary School* (University of Chicago Press, Chicago; $.75).

A little packet, *Learning to Draw*, Set I, by Jessie Todd (University of Chicago Press, Chicago; $.35), contains other practical material.

◆

How can I obtain information on teaching soap carving to children in the third and fourth grades?

Soap carving is too hard for grades three and four unless they are of the genius type. Let the children model, instead of carve.

For modeling, see *Handbook of Modeling and Pottery Craft* (American Art Clay Co., Indianapolis; $.25).

In the March 1936 issue of THE INSTRUCTOR, on Plates VIII and IX, there is a double-page spread entitled "Bird Motifs Used in Handcraft." Soap carving was one method used.

◆

I wish you would suggest some ideas for teaching art in the third, fourth, and fifth grades. Please send me a list of good art books for those grades.

1. Children in all grades like to paint snow scenes. Let them use tempera paint on blue, gray, orange, black, red, or purple paper. Paint of other colors may be used for houses, trees, fences, lampposts, and so on.

2. Children like to paint night scenes. Try black buildings with purple, or dark green paper. Some children will like to paint black boats with orange lights in the portholes.

3. Children like to model clay animals. They like to paint them with water colors or tempera paint.

4. They will enjoy modeling Dutch girls and boys, Indians, old-fashioned ladies, and Mexicans.

If you need assistance with more formal drawing, this may help: *Learning to Draw*, Set III, by Jessie Todd (University of Chicago Press, Chicago; $.35).

Enjoyment and Use of Art in the Elementary School, by Jessie Todd and Ann Van Nice Gale (University of Chicago Press, Chicago; $1.50), will assist you with informal problems such as helping the individual to make progress along the line he likes best. It includes the history of art, how to paint scenery, and how to make many things of interest to children.

◆

I have heard people say, "Do not correlate art with other subjects." This confuses me since we have formerly been asked to correlate with community life, social studies, and so on. What is the reason for this sudden change in policy on the part of many art teachers?

It is true that some school systems have swung to this extreme point of view. In the art class in such schools not one minute is used for correlation. If any is made it is in the time allotted to the other subject. I can see the validity of this because for too many years art has been the handmaiden of all the other subjects. In looking back over the history of art education we see that in schools where the most creative art work has been done, it has been because the children could draw what they wished. When children draw what they wish they seldom correlate with anything.

At the University of Chicago Elementary School we have not swung over to this extreme point of view. Sometimes the art classes for two or three entire weeks are devoted to painting scenery for the study of Mexico or Holland. Another time the art period is given to helping the children draw pets because they are working out a unit dealing with pets.

Many times when a unit has been made very interesting to the children, they prefer to correlate drawing with the unit work. Often the regular teacher needs the art teacher's help.

Problems in Using Visual Aids

F. DEAN McCLUSKY

Director, Scarborough School,
Scarborough-on-Hudson,
New York

YOUR questions about the use of visual aids will be answered by Dr. McClusky in this department. Address him in care of THE INSTRUCTOR, Editorial Department, Dansville, N.Y. Questions will be answered by mail if a stamped, addressed envelope is enclosed.

Can you recommend a good pamphlet which tells how to make photographic lantern slides?

An inexpensive booklet entitled *How to Make Lantern Slides*, by Frank R. Fraprie (American Photographic Publishing Company, 353 Newbury Street, Boston; $.50), is presented in simple, understandable language. It discusses the various processes used in making lantern slides, and the types of slides. It gives the developing formulae used to produce different photographic effects in slides. Making colored slides is described.

◆

We are interested in making motion pictures at our school. Which size of film would you recommend that we use?

There are three standard sizes of motion-picture film, 8 mm., 16 mm., and 35 mm. These sizes indicate the width of the film. Inasmuch as most schools use film 16 mm. in width, I would advise that you make your pictures with a 16 mm. camera and film. If your film turns out to be satisfactory, you will find that other schools will want to see it.

Additional advantages of the narrow-width films are that they are less expensive and are safe to use. All 8 mm. and 16 mm. motion-picture film is manufactured from slow-burning acetate cellulose. Films vary in expense in accordance with the width—the 8 mm. film being the cheapest, and the 35 mm. being the most expensive. The 8 mm. size is used primarily to make motion pictures at home. The 35 mm. size is the standard for theaters.

◆

Have you any suggestions as to how we can make an inexpensive screen for showing motion pictures? We are not financially able to buy one.

The back of a wall map, provided it is clean and free from cracks, makes a good screen. Perhaps the best type of inexpensive screen is a white window shade on a roller, which can be purchased at your local dry-goods store. Satisfactory results may also be obtained by using a good quality muslin or canvas, which may be tacked on a wooden frame of the desired size. The surface of the cloth facing the projector should be painted with flat white paint or aluminum paint. This type of screen cannot be rolled up, but would have to be either suspended by counterbalance weights or permanently fastened to the wall.

An inexpensive screen which may be adapted to either classroom or auditorium is a good quality bed sheet. Brass rings may be sewed on at the four corners and along one long side. Cords can then be run through the brass rings to supports which not only serve to hang the sheet but to hold it taut. After use, it can be folded up and stored until needed.

If your classroom or auditorium has a wall space of sufficient size and of central location, it may serve as a screen. Paint the wall with flat white or light cream-colored paint, with an attractive border. Many schools use this type screen on which to project lantern slides and motion pictures.

The size of the screen will depend on the size of the classroom. I would recommend that for classroom work the screen be approximately four feet by five feet. For an auditorium, the screen should be eight feet by seven feet, or twelve feet by ten feet.

◆

We are making a motion-picture record of our school activities in the classroom. The pictures are not bright and clear. We have been using Eastman Cine Kodak Safety film in a camera with an f. 3.5 lens. We are wondering whether it would help if we used the more expensive panchromatic film.

In taking interiors with 16 mm. motion-picture cameras, I would recommend that you use Eastman Cine Kodak super XX panchromatic film. This has a Weston speed rating which is eight times as fast as the film which you have been using. I would also recommend that you secure a camera with a faster lens, such as f. 1.9 or f. 2.7.

Numerous amateur motion pictures which are taken indoors show insufficient illumination. I would suggest using not less than eight to ten No. 2 photoflood lamps with reflectors for general shots in the classroom. Be sure not to put more than two or three lamps on the same light circuit; otherwise, the fuse will be blown out.

For close-ups, two to five photofloods, depending on the distance of the camera from the object, will be sufficient. Be careful to warn children not to look directly at the light source. Otherwise, there is danger of injuring the eyes. An exposure meter should be used as a guide in determining the correct exposure for specific occasions.

Refer to pages 61, 62, and 64 for other columns in "Your Counselor Service."

Your Arithmetic Counselor

FREDERICK S. BREED

Associate Professor of Education,
University of Chicago,
Chicago, Illinois

HAVE you questions regarding methods of instruction in arithmetic? Address them to Dr. Breed, in care of THE INSTRUCTOR, Editorial Department, Dansville, N.Y. If you desire a reply by mail, enclose a stamped, addressed envelope.

Can you give me any suggestions for developing the concept of fractions, besides the old pie section method?

You do well to stress the importance of developing the meaning of a fraction, for the most prolific source of error in computation with fractions is lack of understanding of the process, and understanding is indissolubly tied up with the fraction concept.

The objection to pies for the purpose in mind is not that they are inappropriate for use, but that they have been used to excess. I suggest, therefore, that you look for other activities within the experience of the child, such as dividing an orange into two equal parts, folding a sheet of paper into four equal parts, and cutting a ribbon into five such parts, and use these activities to develop the notion of larger and smaller fractional parts.

◆

On what basis should one evaluate modern texts in arithmetic?

This is a fundamental question, one that goes to the very heart of curriculum making, for a text is nothing more than a curriculum printed and offered for sale.

Curriculum specialists, for the most part, build their structure with one eye on social practice and the other on pupil need. They therefore gather data on arithmetical usage in everyday life as well as on the arithmetical interests and abilities of the learners. When such data are not available, recourse is had to the opinions of experts and the knowledge of approved practice.

In the case of the two principles mentioned, it should be observed that the conservative author is inclined to lean more heavily on social practice for guidance, the progressive more heavily on the demands of the learner.

◆

When should the formal study of the number combinations begin?

Many schools, and these among the most progressive, favor postponement of formal work in arithmetic until at least the third grade. Certain prominent courses, however, provide for the formal study of the easier addition and subtraction combinations in the second grade. By "easier" combinations may be meant a selection determined by the size of the sum, in the case of addition, and the size of the minuend, in the case of subtraction. In other words, the 55 addition combinations whose sums are less than 10, and a like number of subtraction combinations whose minuends are less than 10, may be considered the easier group.

◆

Is it well to teach division by the long method when the divisor is a single digit?

This is precisely what is advocated in several of the most recent textbooks. In these books the aim is to make the children proficient in long division of this type before they attempt short division with the same kind of examples. The supposition is that after the children are able to divide by a method that requires every step to be written, they will be in a better position to take up the abbreviation of this process.

◆

Can you give me some information to help me in preparing a paper on how to teach arithmetic in the grades?

This is a large order, too large for the space allotted here. In lieu of a detailed answer, it might not be out of place to refer to an article of the writer's entitled, "Our General Outlook on Arithmetic," in the *Journal of Educational Research*, December, 1938; or to the Teacher's Manual for *Child-Life Arithmetics*, prepared by Woody, Overman, and the writer (Lyons & Carnahan, Chicago). In the first, general principles in the teaching of arithmetic are discussed; in the second, detailed methods of applying these principles are described.

◆

I have been asked to speak on the topic, "Vitalizing the Study of Arithmetic for the Child." What would you suggest?

For the purpose of vitalizing instruction in arithmetic, many writers at the present time are stressing the importance of plays and games, the use of projects, making excursions or field trips, and correlating arithmetical work with problems found in other subjects. As an example of a helpful project, one might mention the buying or building of a house, in connection with which there are numerous problems concerning the purchase of the lot, the plans of the architect, the size of the house, the contractor's bid, and the cost of furniture, curtains, rugs, taxes, insurance, and so on. The influence of the progressive group in education has been strongly in the direction of greater vitalization.

What to Do in the Social Studies

MARION PAINE STEVENS

Instructor in Primary and
Teacher Training Departments,
Ethical Culture School, New York

YOUR questions on the teaching of the social studies will be answered by Mrs. Stevens in this department. Address your letters to her in care of THE INSTRUCTOR, Editorial Department, Dansville, N.Y. If you desire a reply by mail, enclose a stamped, addressed envelope.

I teach the fourth, fifth, sixth, and seventh grades. I have difficulty in organizing the subject matter in the social studies for these grades, and should like to know what methods to use.

The following plan would be the best one, although it could not be carried out without the consent of your supervisor.

Read carefully your course of study for the four grades which you teach, and list all the social-studies subjects. Arrange them in a four-year sequence, so that about a quarter of the material is included for each year. The first year teach the first quarter to all your pupils, the next year teach the second quarter, and so on, for four years.

During that period each pupil will have covered one quarter of the curriculum each year, although some will be in the fourth grade, others in the fifth, sixth, or seventh. It makes very little difference in exactly which grade the subject of transportation, clothing, or Greek life is taken up. You can vary the work for the different grades, giving the older ones more reference material and more advanced construction work, and making them responsible for helping out with the younger ones. For example, if your subject for a semester is "Transportation and Communication," a group may specialize in boats, air travel, automobiles, telephones, post offices, radios, and so on. All can pool their knowledge during the reports and general discussions, and members of each group should contribute materials and ideas to the other groups.

If it seems impossible to arrange a four-year sequence, the same idea can be adopted for two two-year sequences, one for fourth and fifth grades, and one for sixth and seventh grades.

◆

In our kindergarten we are studying the bakery. We are building a bakery and have made a frieze and a number of large individual pictures. Arrangements are being made for us to visit a local bakery. Have you any suggestions which would help make the work interesting? I would also appreciate some references.

In one way you have put the cart before the horse in working out this unit. Intake should come before outgo. The bakery trip ought to be an early experience. The children should have stories and pictures, and do some simple cooking. The normal sequence is about as follows. Children introduce an activity through dramatic play, perhaps. Discussions with the teacher follow, along with such experiences as those mentioned above. Creative expression develops as a result of discussions and experiences.

In addition to cooking, the children should handle wheat. Secure whole-wheat grains. Then plant some of the wheat in a dish or a flowerpot. It will grow several inches high. Pull up a grain or two at different stages and examine it. Explain that wheat belongs to the grass family.

Bolt the wheat. To do this, pound up wheat grains with a potato masher, or grind them in a coffee grinder. This makes whole-wheat flour. Strain the flour through fine cheesecloth or coarse white muslin. The white flour will pass into the container, while the bran will remain on the cloth.

Available books in connection with the bakery are the following:

Bread, "Picture Script Series" (E. M. Hale, Milwaukee; $.15).

The Sandman: His Farm Stories, by William Hopkins (L. C. Page & Co., Boston; $1.75). "The Story Book of Wheat." "The Baking Story."

The Story Book of Wheat, by Maud Petersham and Miska Petersham (John C. Winston Co., Philadelphia; $.60).

◆

I need some help in developing a unit on "Homes around the World" in my fourth grade. What would you suggest?

Start by listing many types of homes—Indian tepee and hogan, log cabin, Swiss chalet, Chinese junk, tree house, medieval castle, and others. Develop the concepts that differences depend on (1) climate and environment, (2) type of material available. Many of these homes may be constructed or pictured. For the construction, children may work in small groups. A wall frieze might be made of the pictures. Each child may keep a notebook for his poems, drawings, and informational material.

Bird homes and animal homes may also be studied. Collections of these homes may be made for a nature museum. The class may take field trips to see animal homes outdoors. Here again many books and pictures should be used to supplement firsthand experience. Look in your town library for suitable books. Ten-cent stores have several fine nature books. *Shelter*, No. 7 in The Instructor Series of Illustrated Units (F. A. Owen Pub. Co., Dansville, N.Y.; $.30), contains useful material in text and pictures.

Refer to pages 61, 62, and 63 for other columns in "Your Counselor Service."

Tests for Middle and Upper Grades

(*Continued from pages 26 and 27*)

A VOCABULARY TEST

KEY

1. untrue
2. nature spirit
3. money
4. king
5. unfair
6. carried
7. planning
8. seized
9. sly
10. eat
11. wish
12. polite
13. dying
14. sickness
15. ask
16. amazement
17. light
18. ugly
19. bravely
20. continue
21. precious stone
22. spell
23. loaded
24. agreed
25. announced
26. enchanter
27. imaginary bird
28. faltered
29. tricked
30. ruled
31. sorrowing
32. fooled
33. dive
34. revealing
35. called
36. plan
37. need
38. wrong
39. here
40. crack
41. done
42. pure
43. mocking
44. curved sword
45. passed
46. persuaded
47. climbing over
48. adorned
49. religious
50. hidden

A POSTURE TEST

KEY

1. T	8. T	15. T	22. T	29. T
2. T	9. T	16. T	23. F	30. T
3. F	10. F	17. F	24. F	31. F
4. F	11. T	18. T	25. F	32. T
5. T	12. F	19. F	26. F	
6. T	13. T	20. F	27. T	
7. F	14. F	21. T	28. F	

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KEY

I. 1. 4; 72%
2. 5; answers will vary
3. 90.62%

III. 1. 298 qts.
2. $1.44; $2.04; $2.16
3. $.15⅔
4. $1.88
5. $.50
6. $.90
7. $1.12½
8. $1.60; $6.40
9. 62.025
10. 26.8 qts.
11. $2.30
12. 24.63%

IV. 1. 224 mi.
2. $105.00
3. $73.50
4. 95.23%
5. $27.85
6. $62.72

A TEST ON EUROPE

KEY

1. Himalayas
2. Pacific Ocean
3. Northern Ireland
4. Loire
5. tea
6. bulbs
7. Siberian
8. Naples
9. Arabs
10. Switzerland
11. Australia
12. Ladoga
13. England
14. Australia
15. Rumania
16. Hungary
17. Spain
18. Dnieper
19. Scotland
20. Switzerland

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FIRESIDE INDUSTRIES, Dept. 10-A, Adrian, Mich.

Step Drawings of Children Shoveling Snow

(*Continued from page 30*)

curved. You will make the line for the snow rather irregular.

The pictures show you how to draw two kinds of sidewalks. The upper picture shows a straight sidewalk. The lower one shows a curved walk or road.

After you have made pictures like those shown here, you will surely wish to make original pictures. In making snow scenes, it is a good plan first to draw something large in the picture. So much needs to be white in a snow picture that it is very important to have some objects large and dark.

Yellow houses do not look very well in snow scenes. Red, dark brown, or green ones show up better. The dark colors are needed to balance all of the light snow. The trees can sometimes be made all brown or all black with no snow on them.

Here are some suggestions for other pictures.

1. Draw several houses in the distance and several children shoveling snow.

2. Draw a house in the distance with a barn and a haystack covered with snow. Draw twin girls or boys shoveling snow.

3. Draw a little boy shoveling a walk leading to the Sunday school. A church can be made by adding a steeple to a house. Some church steeples have crosses on them. The tops of the windows in the church can be made pointed.

4. You can draw a dog beside the child who is shoveling, and some skis leaning against the tree.

5. Children may be represented as Dutch girls and boys shoveling snow off the ice of a canal in Holland so that they can skate.

"Master Lambton"—Sir Thomas Lawrence

(*Continued from page 23*)

Bath was the next step in the ladder of young Thomas' social and artistic ascendancy. There he was besieged with patrons who often paid a high price for a crayon portrait.

It was not until he was seventeen that Lawrence attempted to paint in oils. He was quite pleased with the reception given him in London, and he told his mother that except for Sir Joshua Reynolds, he felt that his paintings were the equal of those of the foremost artists.

His work won favor with King George III. While too young to be a member of the Academy, he was, at the request of the king, elected on the basis of supplemental associate. Then with the death of Sir Joshua Reynolds in 1792, he succeeded him as painter in ordinary to the King. On April 22, 1815, he was knighted. Honors continued to be showered upon him. In France he had the right to wear the decoration of the Legion of Honor.

From 1815 to 1818 he was busy painting the pictures of those who were at that time rearranging the map of Europe. He knew Paris, Vienna, and Rome. Upon his return to England in 1820, he succeeded Benjamin West as President of the Royal Academy.

Most of the great and fashionable people of his time posed for him. A few of the portraits for which Lawrence is well known are: "Lady Blessington," "Mrs. Siddons," "Prince Metternich," "John Kemble as Hamlet," "Sir Walter Scott," "Cardinal Consalvi," and "Child with a Kid."

Are You Entering Our Environment Contest?

(*Continued from page 10*)

You Are Eligible **if you are a teacher or supervisor of grades one through eight of a rural school, and if the report submitted describes work which you have been doing since September, 1939, based on the use of your environment.**

Rules to Follow:

Length—from 1800 to 2500 words.
Paper—plain white, 8½" x 11". Use one side only.
Typewritten—yes, double-spaced.
Postage—send by first-class mail, postage fully prepaid.

Important:

A verification sheet should be attached to your report, stating:
Your name and address
Name and address of your school
Size of school and number of teachers
Number of pupils in your grade or school
Economic background and nationality of your pupils
Signature of your principal or superintendent
No report entered in this contest will be returned.

Prizes:

1st prize . . . A Longines "Presentation" watch, for either a man or a woman, valued at $85.00. (Woman's wrist watch solid gold set with diamonds; or man's watch solid gold, strap or pocket style)

2nd prize . . . A Longines watch valued at $65.00. ("Corsair" solid gold wrist watch for a woman, or "President Taylor" solid gold strap watch for a man)

3rd prize . . . A Longines watch valued at $40.00. ("Venus" gold filled wrist watch for a woman, or "De Witt Clinton" gold filled strap watch for a man)

Honorable Mention:

Reports in this class which we publish in THE INSTRUCTOR will be paid for at our regular rates.

Announcement of Awards:

Prize winners will be announced in the May 1940 issue of THE INSTRUCTOR and prize-winning articles will be published in the magazine as soon as possible after awards are made.

Your Report Should Be Mailed soon after the first of January. No report received after January 15, 1940, at midnight, will be considered.

Address your report to
Helen Mildred Owen, Editor
Environment Contest
THE INSTRUCTOR, Dansville, N.Y.

Posters for January

(*Continued from page 29*)

THE posters on pages 29, 33, 37, and 39 offer a variety of suggestions for encouraging thrift habits. Let the pupils use their own ideas of representing the slogans pictorially. Such questions as the following will stimulate their thinking.

In what other activities than washing blackboards can co-operation save time? How can you show saving with a purpose? Besides mending broken toys, how can you be thrifty with your possessions? How can you spend your energy wisely all through the year?

Any seasonal illustration that is drawn should be that of the locality in which the pupil lives.

A Simple Paper-Folding Lesson

(*Continued from page 31*)

to cutting the design out first, and then tracing around it. It eliminates disfiguring pencil marks, and gives freer results.

Paste one of the cutouts on the face of the envelope. Then divide the other cutout into several pieces to form the puzzle.

Make a container for the puzzle by folding a sheet of paper 5" x 8½" through the center so that when it is folded, it will measure 5" x 4¼". Paste the sides just enough to hold the edges together. Then insert the puzzle pieces and paste the open end. No pieces of the puzzle can be lost, and the fact that it is sealed makes it intriguing.

These puzzles give much pleasure to convalescents. They make suitable contributions to the Red Cross boxes which pupils so often fill, as they are flat, not too large, and take up little room.

The envelope can become a case in which to enclose a handkerchief. It can be used as an envelope to enclose an invitation.

Dinosaur Models

(*Continued from page 38*)

from *The Museum Comes to Life* (American Book Co.). While this story settled some points, it created interest in others, as the discovery of egg-laying dinosaurs in Mongolia.

The next day a set of colored mounted dinosaur pictures was passed out and discussed. These included Protoceratops, Allosaurus, Diplodocus, Tyrannosaurus, and Stegosaurus, all interesting types because of their varied characteristics and peculiar climatic adaptations.

This informal picture study of types prepared the way for interest and inference in regard to illustrative material to be used for the free reading period. This material included maps, charts, pictures, cartoons from magazines, books, and certain advertising folders. A simplified chart of the "Ages of Life," from unicellular life to mammals, was drawn on the blackboard with colored chalk.

It was suggested that the children might make dinosaur models for an exhibit such as museums display.

Models from Inner Tubing

The height of the dinosaur figure was determined by the width of the inner tube, as shown in the sketch of the Brontosaurus at lower right on page 38. The length was in proportion. As each child made a model for a different species, each drew his own pattern. This required considerable effort and judgment. A previously made model was available for comparison.

The edges of the pieces were punched for sewing about ¼" apart. The pieces were sewed together with brown cord around the head, back, and tail. Then the underside was sewed in, making legs and giving width to the body. One underside edge was left open for stuffing the model with cotton batting. (The heads and tails were left flat, and assumed a realistic curve after painting.) The legs were placed over the wooden pegs of the base, which supported the model. This necessitated rearranging of stuffing, after which the open edge of the underside of the figure was sewed together.

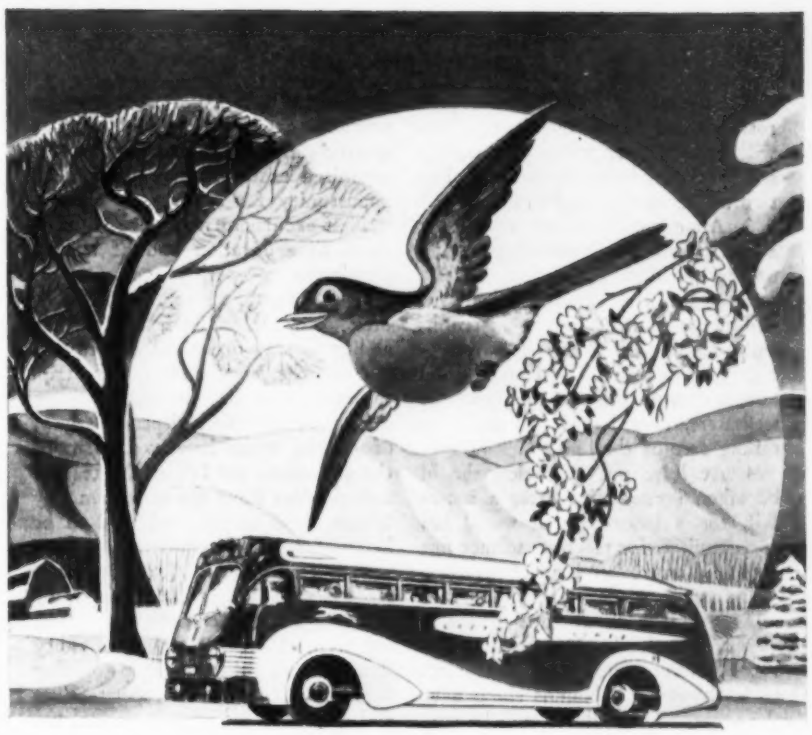
For painting, lacquer in black, blue, green, brown, and tan was used. Blue and green were daubed on black backgrounds to obtain the iridescent, slimy effect of Brontosaurus; and mottled light green and cream were used on Stegosaurus. The *Sinclair Dinosaur Book* (Sinclair Oil Co.) was our color guide.

Soap and Wood Carving

For work in these mediums, children also made individual patterns but smaller in size and simple in design. For soap carving, the pattern was made the size of the medium or large bar of white laundry soap. The soap was cut to a flat surface on each side, and then the pattern was applied and marked on both sides. The figure was then carved out with a jackknife. (See figure at left top of page 38.)

For wood carving, various-sized pieces of soft wood, such as white pine, were used. For the outline figure, the pattern was traced and the design was cut with a coping saw. The figure was perfected with a wood file and sandpapered. It was then glued to a support. (See center figure on left of page 38.)

The round carvings were first blocked out with a ripsaw, cut down with a coping saw, whittled, filed into shape, and finally sandpapered. (See lower figure on left of page 38.)



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Spring

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Detroit, Mich. . . . . Washington Blvd. at Grand River
Minneapolis, Minn., 509 Sixth Ave., N.
Boston, Mass. . . . . 60 Park Square
St. Louis, Mo., Broadway & Delmar Blvd.
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Send this coupon to nearest information office, listed above, for colorful booklet full of pictures and information about FLORIDA & GULF COAST ☐, COLORFUL SOUTHWEST ☐, CALIFORNIA ☐. Please check the one desired. If you want rates, routes and information on any other trip, jot down place you'd like to visit on margin below.

Name_____

Address_____ IN-1

Science Excursions in Winter

(*Continued from page 25*)

By scratching away some of the rotten wood in an old stump, you will probably see where the downy woodpecker manages to get a meal or two of insect eggs and grubs.

3. An excursion taken soon after a sleet storm may initiate the setting up and maintaining of a feeding station for the birds. When the children see how ice covers the trunks and branches of trees where insect-eating birds usually get food, and how it cuts off the seed supply of the seedeaters, they feel a real need for taking care of the birds.

4. At least one excursion should be taken immediately after a snowfall, for a snow-covered world has opportunities for teaching science not found in any other kind of weather.

On such a day follow a wild rabbit's tracks to discover where it goes to get food. Measure the distance between groups of footprints to see how far it bounds along over the snow. The children will be surprised at the length of the leaps. They will be interested in comparing the tracks of the rabbit with those of a muskrat or some other animal.

5. The horned lark is a bird you may want to be watching for on one of your excursions near the end of winter. This bird often builds its nest and lays its first clutch of eggs before the snow is off the ground.

6. A variation of the usual excursion is for one group of children to take another group on a walk to show them what they have seen on previous excursions. This gives a specific purpose for planning a well-organized excursion and provides an opportunity for sharing experiences.

First excursions may have to be of short time duration and of a very simple nature—perhaps going to see only one thing. Later, as the children grow in self-control and in ability to stay organized and to follow out the purpose set for the trip, the excursions may be longer.

The success will depend largely, of course, upon how well planned the excursions are before the teacher and children leave the classroom. By taking time to plan what is to be looked for, how to conduct ourselves, who is to be the leader (not necessarily always the teacher), and how things are to be collected, recorded, and so on, there is a feeling of unity that tends to hold the group together through a common understanding and a specific purpose.

Every good excursion ends with getting the children back into the classroom without confusion and in spending some time together discussing what was seen and what new things about science were learned. The children may also like to discuss plans for future excursions.

If you have never tried winter excursions, you can't know what you have missed. If you have tried them, you know how rich in opportunity for teaching science they are!

Sheet-Cork Printing Blocks

(*Continued from page 32*)

be cut out with a paper punch. Glue the design to a block of wood of the same size. Press the completed block one hour.

To print such a design on paper, use water-color or block-print paint, thinning it with water. To print on other materials, mix the paints on a palette, and thin with turpentine. Experiment for consistency. (Too thick paint will clog the block; too thin paint will spread.)

Brush the paint evenly on the cork design. Wipe off the excess paint from the background. Press the inked block firmly down on the material to be blocked, being sure not to move the block, and to press over the entire surface. Repeat the process for each print. Clean the block very carefully with turpentine when the printing is finished.

Some of the uses of cork block printing are as follows: notebook covers; greeting cards; illustrations for schoolwork; wall borders; decorations on construction work, handkerchiefs, and wall hangings.

Nixie, Pixie, Leprechaun

(*Continued from page 14*)

delegates in the hope of a possible restoration to the throne. Tailors, jewelers, dressmakers, and hairdressers worked at top speed, and no expense was spared in preparing for the journey.

Titania felt that she could not possibly travel without her own special servants and the most luxurious accommodations. Oberon's vanity was only a degree less than hers, and so his wardrobe was a matter of much concern to the elfin tailors, who lavished quite as much embroidery and jeweled ornament upon his clothes as upon those of the Fairy Queen. Titania's only fear was that if there were a Contest of Beauty, some of the mermaids, whose loveliness was much heralded, might prove troublesome rivals.

At last everything was settled, and anyone gifted with the "seeing eye" might have observed the departure of the Seagull-Plane Express in the early dusk of that Midsummer Eve. A dozen hurrying elves lifted aboard an astonishing number of smart-looking bags and suitcases made of white doeskin and labeled in golden letters:

Oberon, Rex
Titania, Regina
New York City
Handle with Care.

(*Continued in the February issue*)

The New Instructor Series of Illustrated Units

FOR ALL GRADE LEVELS . . . EACH UNIT PUBLISHED SEPARATELY

UNITS of work are the teacher's greatest aid today in presenting the Social Studies and Elementary Science. To provide this material in the most convenient, usable form, the publishers of The Instructor are introducing THE INSTRUCTOR SERIES OF ILLUSTRATED UNITS, embracing a wide variety of subjects. In this series the Units are published separately and are obtainable as desired.

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Each Unit consists of an *8-page pamphlet of text material*, size 12¾ by 9¾ inches, and a *picture portfolio* of the same size containing four pages of carefully selected illustrations. The picture pages have no reading matter on the back and so are ready to put on the bulletin board, cut out and mount, or file for reference. Both the pamphlet of text material and the picture pages are printed on a heavy, enamel-finish paper, like that used for the covers of The Instructor.

The 8-page pamphlet of text material, on the cover of which is a large picture, includes: a general overview of the subject; suggested teaching procedures; factual reading matter for the pupils; questions, exercises, and activities; and a bibliography. All of this material is arranged for use on three separate grade levels—primary, middle, and upper.

At the right is a list of the first group of subjects which will be made available in THE INSTRUCTOR SERIES OF ILLUSTRATED UNITS. The Units on Elementary Science were prepared by Glenn O. Blough, Instructor in Science, Laboratory Schools, University of Chicago; those on Social Studies by Marion Paine Stevens, Instructor in Primary and Teacher-Training Departments, Ethical Culture School, New York City, and Katherine L. Julian, Teacher of Social Science, Central School, Wilmette, Illinois.

These Units are being greeted with enthusiasm by teachers and school executives everywhere. You, too, will be delighted with them. Send a trial order today, using the convenient order form at right.

The Units in this series are priced at 30 cents each, postpaid; four or more, 25 cents each, postpaid. Any number of the Units may be ordered in combination with THE INSTRUCTOR at the 25-cent price. Order Units by number.

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Birds (32)	Fishing (13)	Safety Education (24)
Boats (12)	Food (6)	Sea Creatures (28)
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City Life (15)	Natural Resources (16)	Trees (9)
Clothing (26)	Old World Gifts (10)	Weather (19)
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I am enclosing $..... herewith.

Name.....

St. or R.D.....

P. O.....State.....

January Goes First

(*Continued from page 43*)

White Queen to see whether you like them, too.

(*Lewis Carroll exits and Red Queen, White Queen, and Alice enter.*)

RED QUEEN—I invite you to Alice's dinner party this afternoon.

WHITE QUEEN—And I invite *you.*

ALICE—I didn't know I was to have a party at all, but if there is going to be one, I think *I* ought to invite the guests.

RED QUEEN—We gave you the opportunity of doing it, but I dare say you've not had many lessons in manners yet.

ALICE—Manners are not taught in lessons. Lessons teach you to do sums, and things of that sort.

WHITE QUEEN—Can you do addition? What's one and one and one and one and one and one and one and one and one and one?

ALICE—I lost count.

RED QUEEN—She can't do addition. Can you do division? Divide a loaf by a knife—what's the answer to that?

ALICE—I suppose—

RED QUEEN—Bread and butter, of course. (*The Red Queen, the White Queen, and Alice exit, and Benjamin Franklin and James enter.*)

PAGE—Benjamin Franklin, as a boy, and his friend James.

JAMES—Hello there, Benjamin. Where are you off to?

BENJAMIN—I am going down to Parkin's store to buy some paper.

JAMES—I thought paper was only for folks with book learning.

BENJAMIN—That may be, but I'm going to have some book learning, too.

JAMES—What will you do with your learning after you get it?

BENJAMIN—I don't know yet, but something good, I hope.

JAMES—But why do you walk such a long way to get your paper? Why don't you step right in here at the Farrell shop and buy it?

BENJAMIN—Because I can get the paper for a penny less at Parkin's.

JAMES—And would you walk all that way to save a penny?

BENJAMIN—Certainly. A penny saved is a penny earned.

(*The frame is darkened.*)

FATHER TIME—There, you have seen what fine people were born in the first month of the year. And there were many more besides.

JANUARY—You are right, Father Time. I am proud to be the month to come in with the New Year.

Jack and Jill—A Wall Hanging of Cut Paper

(*Continued from page 36*)

Cut and paste Jill's hair, taking care to get it placed correctly, as the position of the hair makes a great difference in the design. Cut out Jill's complete dress and paste it in place; then paste the apron over it. Notice that the apron should be cut wider than the dress. Finally paste the socks, and over them the shoes, which should be as wide as the socks.

Now cut and paste on Jack's cap, placing it at the correct angle to look as it does in the design. Then paste his blouse, which should be cut long enough so that the top of the trousers will overlap the blouse. Cut and paste the trousers. Be sure to place them high on the blouse, so that they will come well above his knees. Refer to the design. Then add Jack's socks and shoes.

Cut and paste the other flowers, stems and blossoms, as shown.

After all the pieces are pasted and dry, draw the faces. If they are drawn earlier, the features may not be placed correctly. Draw carefully with a soft pencil. Do not use ink, as it makes the features stand out too conspicuously. After that, draw the pocket on Jill's apron, the buttons on Jack's blouse and trousers, the lacings and tips on the shoes, and the centers of the flowers.

Select a good color of dark paper on which to mount the hanging. Leave a margin of 1″ at the top and on each side, and 2½″ at the bottom.

Making Rhythm-Band Instruments

(*Continued from page 35*)

many types of rhythmic sounds. Sandpaper, obtainable at the hardware store, is fastened around both blocks and secured with thumbtacks. A good circular motion produces the sound of rain. An irregular motion forward and back in four-four time with emphasis on the first beat will reproduce the sound of a train.

Bells

These are nice to have if they can be found. A junk yard or even a secondhand store might yield some.

Miscellaneous

Some pupils will want to bring harmonicas, kazoos, and so on. It is suggested that those who are still without some instrument bring a comb from home. With tissue paper wrapped about it, the comb will produce satisfactory musical tones.

When the instruments have been completed, the children may improvise their own rhythms and tunes. We should draw from children all their latent powers of self-expression.

Author's Note: The writer has a small supply of gourd seeds on hand. They should be planted, as melon seeds are, in a shallow circle about 8″ in diameter. Any reader who would like to have enough of these seeds for one hill may receive an allotment so long as the supply lasts, by writing to the author in care of The Instructor and enclosing a three-cent stamp.

RIO DE JANEIRO, a city and port of Brazil, the capital of the republic and the second city of South America. The city of R... constitutes the Federal District, co... District of Columbia in the ... politically separate from ... The city proper cover... the chief executive ... presents the natio... by the presiden... of the senate, Rio ... upon the product... wonder... aside

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FOR THE BUSY TEACHER

To order any of the following items, use a separate slip of paper, 3½ by 5½ inches, for each item. On the slip write Number of item desired, *together with your name, mailing address, school, and teaching position. Send your request slips (with stamps or coin when called for) to* TREASURE-TROVE, THE INSTRUCTOR, DANSVILLE, N.Y. *Please do not ask for items mentioned more than five months ago.*

232. An Aid in Bird Study

If you would like to arouse an interest in birds among your pupils, or satisfy an interest already evident, no better way could be found than by the formation of a Junior Audubon Club under auspices of the National Association of Audubon Societies. This organization will send free to any teacher a typical four-page illustrated leaflet for study of a particular bird, with separate color plate and outline drawing of this bird—together with a sheet of instructions for forming a Junior Audubon Club. (Mention grade you teach, as leaflets are issued in Junior and Senior styles.)

233. On Continental Airways

It was only thirteen years ago that coast-to-coast air passenger service began in the United States. In 1927 the transcontinental trip took 32 hours, and small single-engined two-passenger mail planes were used. Now, 3-mile-a-minute travel in safety and comfort, day and night, is a commonplace of aviation. But consider what has been accomplished in a few short years, and the commonplace becomes a marvel of scientific enterprise. *Behind the Scenes of the Nation's First Airline* is a fascinating booklet that tells the how and why of United Air Lines' operation over the mid-continent airway—with a record of 30,000 coast-to-coast trips and 150,000,000 miles' experience. Many photographs and drawings illustrate the text, and colored decorations add a bright touch. One copy may be had for the asking. We predict that your pupils will devour it!

234. For a New and Better Day

The only hope of a world where nations now put their trust in "reeking tube and iron shard" is to train a new generation to help in bringing a new and better day. The children and youth of enlightened nations are growing up to hate war and work for world friendship and world peace. Teachers who promote this cause are true peacemakers. Forces that are on the side of good will among men are represented in the margin of a Picture Map of the World, published by The Friendship Press. A copy of this map, in the pupils' size (8″ x 11″) will be sent gratis, as will a similar Picture Map of the United States. With the maps goes information on quantity prices and on 30″ x 50″ wall maps for display use. Each of these large maps is accompanied by an attractive insert sheet of text and cutouts for coloring. This is excellent social-science material.

Candlemaking Day in the Colonies

(Continued from page 41)

Mother riding on the horse with Father. Mother said that we should help you all we can.

ELLEN—And see, we brought our samplers. (*Holds up a sampler.*)

REMEMBRANCE—Oh, good! I am glad you came. We are going to make candles, and you can help us.

JEREMIAH—Mother was frightened because they have to ford two streams.

THOMAS—Yes, but Father said our horse would carry them safely.

MOTHER—I'm sure they will be all right. Now we must get at our candlemaking. Edward, you may give out the sticks. Remembrance, you may give out the wicks. You all know how to tie them on. (*Children tie their wicks to the sticks.*) Now we are all ready to go out in the yard. You children may all make the dipped candles, and Richard and I will make the molded ones.

(*All go out.*)

SCENE III

(*Remembrance is seated at the spinning wheel; Charity, Ellen, and Patience are working on their samplers. Richard comes in with the rack of dipped candles and puts it in a corner.*)

REMEMBRANCE—Don't our candles look nice? And it was really fun to make them this morning.

ELLEN—Yes, I like to make candles, but I don't like to make soap.

CHARITY—I hope Mother and Father are all right.

REMEMBRANCE—Oh, they will be, although Father says that there may be an Indian uprising this fall.

CHARITY—All our Indians around here are friendly. One night last week I woke up and looked out from my trundle bed into the kitchen. There were three Indians all wrapped in their blankets lying by the fire.

REMEMBRANCE—Oh, weren't you scared, Charity?

CHARITY—No, they often come that way. My father has told them they are always welcome. The next morning they had gone before any one was up, but see what one of them left for me. (*Takes a corncob doll out of her pocket. The girls gather around and look at the doll.*)

REMEMBRANCE—Oh, Charity, an Indian doll made of a corncob and cornhusks. Isn't it nice?

ELLEN—In New Hampshire there was an Indian fight not long ago, and a lot of settlers were killed.

REMEMBRANCE—Yesterday noon I thought I saw an Indian looking in the door, but it was only Edward fooling me. (*The boys all come in, noisily, and sit down.*)

EDWARD—Girls have it pretty easy, with nothing to do but spin and sew, while we boys have to cut wood, carry water from the spring, and skin the rabbits for supper.

RICHARD—Did you girls see what happened in church last Sunday when Mr. Brown got sleepy?

CHARITY—Yes, the tithing man gave him a good rap on the head.

THOMAS—Let's play church!

REMEMBRANCE (*jumping up excitedly*)—Yes! Women on one side, men on the other! (*Children place the chairs.*) You be the minister, Edward. And you be the tithing man, Richard.

CHARITY (*speaking to Edward*)—But don't you turn the hourglass over two times as our minister did last Sabbath day.

REMEMBRANCE—And then the sand almost ran out again before he stopped.

THOMAS—Here is a feather to tickle the ladies with, Richard. (*The children play church.*)

FATHER (*entering suddenly*)—What is this? What is this? It is not seemly to mock the church.

EDWARD—Oh, Father, we meant no harm. (*They rearrange chairs.*)

REMEMBRANCE—Father, will you tell us about your trip to Boston? Tell Charity and Ellen about eating dinner with the Governor.

FATHER—You want me to tell about the Governor's silver forks? Well, the rich people now eat with forks, instead of with wooden spoons. The Governor's lady was proud because the last ship brought her six silver forks from England.

MOTHER (*coming in and walking around to look at each girl's work*)—How are the samplers coming? Charity, you will be proud of this sampler when you are older. It has such tiny stitches. Remembrance, you have done a nice lot of spinning. You children have all worked hard, and I am so happy to have the candlemaking all done. Now we can stop working a while. I have a treat for you. I have been saving some maple sugar from last spring, and this would be a good time to serve it. Charity and Remembrance, you may pass it.

(*They pass the maple sugar, thus ending the play.*)

A Close-up of Hawaii

(Continued from page 58)

surroundings and the faraway ocean realm of my lifelong desire. I've seen in Arizona the moon above the desert. I've seen the craters there. Then with closed eyes I have tried to picture Mauna Loa or Kileauea and the moon at the beaches of Oahu, looking down along her silver pathway at sea. I have watched the desert dust-spirals rising lazily to move here and there at the will of a vagrant breeze, and I have tried to imagine them the smoke from funnels of ocean steamers. When desert winds shift the sand across the dunes I picture splashing ocean waves. The mirage brings vividly to me changing marine scenes.

Water—yes, it is water, boundless water, that one longs for when summer comes to the desert! Then one

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A Close-up of Hawaii

(*Continued from page 70*)

thinks of the invigorating chill of night winds at sea . . . of spray in one's face . . . long, easy swells astern . . . sometimes a cloudy sky with a splatter of rain, or a foggy haze obscuring the view.

From my Imperial Valley home below sea level, while the desert bakes I think of the "life on the ocean wave" that begins not far beyond the western mountains. It is a joy just to picture a great liner, with its rest or recreation by day, its drowsy vibration of engines at night. Good berths and good food! Goodwill and good-fellowship throughout the voyage! At last "the rainbow round my shoulders"—Hawaii!

My soul craves Honolulu. There I would listen to real Hawaiian music at night—to the throbbing chords of deep-toned guitars intermingled with ukulele notes, sustained by the rhythm of drum beats. For a few weeks, anyway, I want to exchange the sand dunes for silver strands, the cactus and sage for the palm and pineapple, the desert's rolling billows for the ocean's breakers. Over yonder I know there is an outrigger canoe for me to enjoy, a lei-wreath awaiting me.

Going West Again

(*Continued from page 60*)

Perhaps the scene that has lured me most through the years is the Grand Canyon of the Colorado. That, at least, has not been changed! I hope there will still be the Hopi Indian band to do their ceremonial dances for us in the evening; the mule trains patiently carrying sightseers up and down the narrow trails—trails with such breath-taking turns that momentarily one expects to go hurtling, mule and all, down the rocky sides of the canyon! Let us hope for a sunset across the great chasm where the colors, blending in the distance and softened by the fading light, make it seem like a huge Persian rug spread out before us. Then, as the light fades, we can only *feel* the vastness of "The Divine Abyss."

A Correction

In our October, 1939, issue, on page 75, it was indicated in a travel letter on Alaska that the Matanuska Valley project (a resettlement project) had been abandoned. This is not the case. In October, 1938, a number of families did leave the valley, but many others remained. According to latest information, the "project is proceeding in full swing."

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"Down Under"

(*Continued from page 59*)

are not to be found. The shades and varieties of British accent are quite startling to American ears at first. They range from the soft-voiced, cultured King's English to the dialects of people who are said to have lived "within sound of the bells"—Cockney to you.

The arrival at Honolulu is an experience without parallel. The all-pervading fragrance of flowers, the music of the band and full-throated voices of the native singers, and the general air of happiness at our coming, made me forget that I knew not one soul on the dock.

The native Hawaiians, like all the Polynesians I encountered, have at least two traits in common—a desire to please and an innate dignity.

Pago Pago, Samoa, next stop! And this is the real South Seas of grass huts, breadfruit and coconut trees. There is a dreamlike quality about sailing into Pago Pago's perfect little harbor, the crater of an old volcano. In tenders we went ashore for a day of pure enchantment. In a little village reached by bus the Samoans danced the siva and other ancient native dances. Under the trees they displayed their tapa cloth, koa-wood bowls, and other handiwork.

Suva, Fiji, is a great contrast to Pago Pago. Here is a thriving British town where traffic keeps to the left, British money is used, and even the barelegged but uniformed native policeman speaks with a broad English accent. Turbaned Hindus mingle with the bushy-haired Fiji Islanders on the streets.

After more lazy days at sea, our New Zealand friends warned us to get out our wool suits, for it would be the middle of winter in Auckland.

New Zealand has everything in the way of scenery: thermal regions like our Yellowstone, snow-covered mountains and blue lakes like Switzerland, long white beaches like the French Riviera, rivers bordered with giant tropical tree ferns, English countrysides, Maori villages, and great flocks of snow-white sheep.

The typical New Zealander is a little more reserved than the American or even the Australian, yet his real friendliness charms all visitors to his beautiful country.

I have only hearsay knowledge of Australia, but the returning passengers on my boat were so enthusiastic about Sydney and Melbourne and the Australian brand of hospitality, that I *must* go "Down Under" again.

Let's Find the Facts FOR OURSELVES

. . . OUR CLASS TAKES A FIELD TRIP

FACT-FINDING TRIPS have long been recognized as an important means of helping children to discover that the needs of daily life are met through the interdependence of people—from farms and factories to retail outlets and finally to the ultimate user.

We are devoting this new department to descriptions of such trips, so that teachers may be stimulated to further investigation activities. Trips of this type, through firsthand interviews, give children a wealth of factual knowledge, and help to bring about a better understanding between consumer and producer.

Instructors agree that the need for developing competent leaders and sound citizens is greater today than ever before. Our schools can help millions of potential earners and consumers to meet community responsibilities and to learn how to save and spend with skill and wisdom. Good social attitudes must be established by practice.

We invite you to submit a brief article, not more than 750 words, telling how you planned and conducted a fact-finding trip, the questions asked and how they were answered, the things you saw, and some of the social values derived.

Manuscripts used on this page will be purchased at our regular rates and should be addressed to:
Let's Find the Facts
THE INSTRUCTOR
Dansville, N.Y.

★

If You Do Not Know How to Conduct a Field Trip, These Suggestions May Help You

FIELD TRIPS are of value in vivifying and extending children's ideas, but many teachers hesitate to undertake them because of the difficulties involved. This procedure, reprinted from The Instructor, may prove helpful.

I. Secure the parents' permission in writing. These notes should be kept by the head of the school for your protection should an accident occur.

II. Take the trip yourself several days in advance, so that you will be familiar with the situation.

III. Invite a few helpful mothers to go with you. Make sure that they know what is expected of them.

IV. Discuss with the class the following points.
A. What to look for.
B. Courtesy and safety rules.
1. Safety measures in crossing streets, entering and leaving conveyances, and the need for the group to stay together.
2. Route to be taken.
3. Courtesy to guards, policemen, and all those of whom the children ask questions.
4. Good manners, such as quiet voices, taking turns, and orderly formation of lines.
C. Spending money. No one to have more than the needed fare.
D. Appearance. The school is judged by the cleanliness of the children.
E. Breakfast. Some children will be so excited over the trip that, unless the teacher urges them to eat, they will go without breakfast.
F. Luncheon. If luncheon is to be eaten while the excursion is in progress, decide ahead of time what should be taken. Usually a sandwich, fruit, and a cooky or a bar of chocolate will be sufficient.

V. Before leaving, have the children get a drink and go to the toilet.

VI. If possible, take the most direct route to the destination. If fares are to be paid, see that each child has the exact amount. The lessons learned in connection with this are the value of money, not cheating (many children have parents who have evaded paying their legitimate fares), and self-reliance. The teacher should keep the return fares until time to start back.

VII. Have the two most reliable pupils at the head of the line, and the next most responsible at the end. The leaders should cross the street at a signal from the teacher or traffic policeman, and stop some distance up the block, so that the entire line will get on the sidewalk without crowding. At a signal from the teacher they should go to the next crossing, and wait for her.

Little children may fly one block, hop the next, skip the next. They should not be asked to walk sedately.

The teacher should stand in the middle of the street if there is no policeman, and stop traffic by raising her hand, even though the lights should change. However, few cars will attempt to start when they see children crossing. Count the children at frequent intervals. You may pick up a few.

VIII. After arriving at the destination do not permit children to be distracted by other things. Children grow fatigued and lose interest if too much is seen on one trip.

IX. After the visit has been made, attend to the physical needs of the children, and take them back to school. Do not allow them to stop at their homes, even though they pass them on their way. Dismiss them from the school building.

The article on page 10 will be of special interest.

We Visit a Cheese Factory

THIS account, by Mary Wedehase, previously published in THE INSTRUCTOR, is reprinted here to indicate the type of article we shall be glad to receive for this department.

THE children wrote a letter to the manager of the cheese factory in our community, asking his permission to visit the plant. A written reply was received and a date was set for the excursion. In the meantime, the children brought reference books, pictures, stories—anything that they could find that dealt with cheese making. At length they felt that they knew something about it; but there were many points which were not clear. They prepared the following outline with questions to ask the workers at the factory or to answer for themselves from their observations. These questions helped the children to notice the fundamental steps in the process of making cheese.

I. Materials.
  A. Rennet.
    1. What is rennet?
    2. What is its use?
    3. From what does rennet come?
  B. Salt.
    Why is it used?
  C. Milk.
    1. Where is the milk obtained?
    2. How is it transported?
    3. Why is it weighed at the factory?
    4. How much milk is used in making a batch of cheese?
    5. At what temperature is the milk kept?
    6. What happens to the milk?
    7. What are curds?
    8. What is whey?
    9. What kind of milk is used?
  D. Coloring.
    How is orange coloring made?
  E. Paraffin.
    How is paraffin used?

The process of draining the whey from the curds is the step shown here. *Ewing Galloway*

II. Factory equipment.
  A. What is a vat?
  B. How is the milk heated?
  C. What is a rennet tester?
  D. What is a cheese rake?
  E. What is a cheese press?
  F. What is a paraffin vat?
  G. Of what use is the curing room?
  H. What is done with the whey?
  I. How many pounds of cheese are put into each mold?
  J. How many molds will the press hold?

This machine shapes and cuts cheese into the size that is desired. *Keystone View Co.*

At the cheese factory, we were met by the manager, who explained in detail every step of the process. We stayed from 1:30 until 6:00. The cheese was put into the press before we left, but since it had to be kept there for twelve hours we did not see it taken from the molds. The next day a committee went back to observe the remaining steps.

In discussing the trip, the children expressed a wish to make cheese.

They were so proud of their cheese that they wanted everyone to see it and taste it. One boy suggested that we have a party for the mothers and serve our cheese with crackers as refreshments. "What shall we do at our party?" was asked by one of the girls. It was decided to make pictures, illustrating each step of the process, to show at the party.

In addition to obtaining practical knowledge of the cheese-making industry, there were these outcomes.

1. Respect for others' rights.
2. Eagerness to work to the best of one's ability.
3. Co-operation, friendliness, and kindliness, in carrying out the work.
4. Willingness to assist in any undertaking.
5. Increased appreciation of the local community, through knowing something of its growing industries.